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Transactions

Illinois State Medical Society

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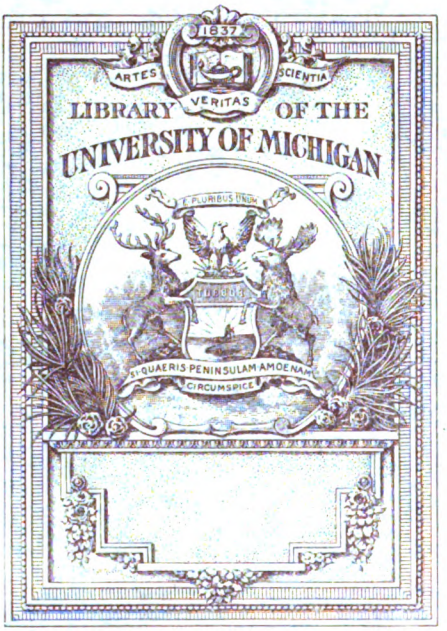

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TRANSACTIONS

OF THE

FORTY-SECOND ANNUAL MEETING

OF THE

Illinois State Medical Society

HELD AT

VANDALIA, MAY 17, 18 AND 19,

1892.

CHICAGO:
John Morris Company, Printers,
1892.

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THE

FORTY-THIRD ANNUAL MEETING

WILL BE HELD IN

CHICAGO, MAY 16, 17 and 18,

1893.

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OFFICERS AND COMMITTEES

FOR THE YEAR 1892-93.

OFFICERS.

PRESIDENT.

E. FLETCHER INGALS, CHICAGO.

FIRST VICE-PRESIDENT.

OTHO B. WILL, PEORIA.

SECOND VICE-PRESIDENT.

DANIEL R. BROWER, CHICAGO.

PERMANENT SECRETARY.

DAVID W. GRAHAM, 133 CLARK ST., CHICAGO.

ASSISTANT SECRETARY.

J. HOMER COULTER, CHICAGO.

TREASURER.

GEORGE N. KREIDER, SPRINGFIELD.

JUDICIAL COUNCIL.

SAMUEL C. PLUMMER, ROCK ISLAND.
J. L. WHITE, BLOOMINGTON.
J. L. HALLAM, CENTRALIA.
CHARLES C. HUNT, DIXON.
RICHARD DEWEY, KANKAKEE.
ISAAC N. DANFORTH, CHICAGO.
JOHN P. MATTHEWS, CARLINVILLE.
FRANCIS P. HALLER, VANDALIA.
EDGAR P. COOK, MENDOTA.

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SECTION ONE.

PRACTICE OF MEDICINE, MEDICAL SPECIALTIES AND THERAPEUTICS

CHAIRMAN, NATHAN S. DAVIS, JR., CHICAGO.
SECRETARY, JOHN H. MILLER, PANA.
ADDRESS, ISAAC N. DANFORTH, CHICAGO.

SECTION TWO.

SURGERY, SURGICAL SPECIALTIES AND OBSTETRICS.

CHAIRMAN, MICHAEL ROONEY, QUINCY.
SECRETARY, EVERETT J. BROWN, DECATUR.
ADDRESS, NICHOLAS SENN, CHICAGO.

SECTION THREE.

ETIOLOGY, STATE MEDICINE AND MEDICAL JURISPRUDENCE.

CHAIRMAN, RICHARD DEWEY, KANKAKEE.
SECRETARY, B. B. GRIFFITH, SPRINGFIELD,
ADDRESS, DANIEL R. BROWER, CHICAGO.

STANDING COMMITTEES

EXECUTIVE COMMITTEE.
(EX-OFFICIO.)

E. FLETCHER INGALS,
DAVID W. GRAHAM,
EPHRAIM INGALS,
NATHAN S. DAVIS, JR.,
MICHAEL ROONEY,
RICHARD DEWEY.

COMMITTEE OF ARRANGEMENTS.

EPHRAIM INGALS, CHICAGO,
HAROLD N. MOYER, CHICAGO,
MOREAU R. BROWN, CHICAGO,
J. HOMER COULTER, CHICAGO,
BOERNE BETTMAN, CHICAGO.

COMMITTEE ON REGISTRATION,
(EX-OFFICIO)

GEORGE N. KREIDER,
J. HOMER COULTER.

COMMITTEE ON PUBLICATION.
(EX-OFFICIO.)

DAVID W. GRAHAM, CHICAGO,
E. FLETCHER INGALS, CHICAGO.
GEORGE N. KREIDER, SPRINGFIELD.

COMMITTEE ON NECROLOGY,

JOHN H. HOLLISTER, CHICAGO.
ROBERT BOAL, PEORIA.
JOHN H. RAUCH, SPRINGFIELD.

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COMMITTEE ON MEDICAL LEGISLATION.

JUNIUS M. G. CARTER, WAUKEGAN,
FRANCIS B. HALLER, VANDALIA,
B. M. GRIFFITH, SPRINGFIELD.
THE PRESIDENT (EX-OFFICIO.)

COMMITTEE ON MEDICAL SOCIETIES.

WILLIAM O. ENSIGN, RUTLAND,
CHARLES W. HALL, KEWANEE,
WALTER WATSON, MT. VERNON.

COMMITTEE ON BIOGRAPHY.

J. L. WHITE, BLOOMINGTON.

LIST OF OFFICERS AND PLACES OF MEETING SINCE THE ORGANIZATION OF THE SOCIETY.

YR.	PRESIDENT.	VICE-PRESID'NT.	SECRETARY.	TREASURER.	PLACE OF MEETING.
1850*	Rudolphus Rouse..	.....	Edwin G. Meek	.....	Springfield.
1850	William B. Herrick	Rudolphus Rouse.	Edwin G. Meek	John A. Halderman	Springfield.
1851	Samuel Thompson.	E. McArthur.....	H. Schoemaker	R. Rouse.....	Peoria.
1852	Rudolphus Rouse..	Thomas Hall.....	E. S. Cooper...	Edward Dickenson..	Jacksonville.
1853	Daniel Brainard....	C. N. Andrews	H. A. Johnson.	A. B. Chambers.....	Chicago.
1854	C. N. Andrews.....	Samuel Thompson	H. A. Johnson.	N. S. Davis	La Salle.
1855	N. S. Davis..... ...	E. R. Roe.....	E. Andrews....	J. V. Z. Blaney.....	Bloomington.
1856	H. Noble.....	T. D. Washburn..	N. S. Davis.....	J. V. Z. Blaney.....	Vandalia.
1857	C. Goodbrake.....	A. L. McArthur..	H. A. Johnson.	J. V. Z. Blaney.....	Chicago.
1858	H. A. Johnson.....	Wm. Lyman.....	N. S. Davis.....	J. W. Freer.....	Rockford.
1859	David Prince.....	H. W. Davis.....	N. S. Davis.....	J. W. Freer.....	Decatur.
1860	Wm. M. Chambers	T. K. Edmiston...	N. S. Davis.....	J. W. Freer.....	Paris.
1863	A. McFarland.....	A. H. Luce.....	N. S. Davis.....	J. H. Hollister.....	Jacksonville.
1864	A. H. Luce.....	J. M. Steele.....	N. S. Davis.....	J. H. Hollister.....	Chicago.
1865	J. M. Steele.....	F. B. Haller.	N. S. Davis.....	J. H. Hollister.....	Bloomington.
1866	F. H. Haller.....	L. T. Hewens.....	N. S. Davis.....	J. H. Hollister.....	Decatur.
1867	S. W. Noble.....	D. W. Young.....	N. S. Davis.....	J. H. Hollister.....	Springfield.
1868	S. T. Trowbridge...	J. O. Hamilton....	N. S. Davis.....	J. H. Hollister.....	Quincy
1869	S. T. Trowbridge...	J. O. Hamilton....	N. S. Davis.....	J. H. Hollister.....	Chicago.
1870	J. V. Z. Blaney.....	G. W. Albin.....	T. D. Fitch.....	J. H. Hollister.....	Dixon.
1871	G. W. Albin.....	John Murphy.....	T. D. Fitch.....	J. H. Hollister.....	Peoria.
1872	J. O. Hamilton.....	T. Worrell.....	T. D. Fitch.....	J. H. Hollister.....	Rock Island.
1873	D. W. Young.....	T. D. Washburn...	T. D. Fitch.....	J. H. Hollister.....	Bloomington.
1874	T. F. Worrell.....	E. L. Holmes.....	T. D. Fitch.....	J. H. Hollister.....	Chicago.
1875	J. H. Hollister.....	Wm. P. Pierce....	T. D. Fitch.....	Wm. E. Quine.....	Jacksonville.
1876	T. D. Washburn....	J. L. White.....	T. D. Fitch.....	J. H. Hollister.....	Urbana.
1877	T. D. Fitch.....	S. H. Birney.....	N. S. Davis.....	J. H. Hollister	Chicago.
1878	J. L. White.....	E. P. Cook.....	N. S. Davis.....	J. H. Hollister	Springfield.
1879	E. P. Cook.....	J. S. Whitmire....	N. S. Davis.....	J. H. Hollister	Lincoln.
1880	Ephraim Ingals....	G. W. Jones.....	N. S. Davis.....	J. H. Hollister.....	Belleville.
1881	G. W. Jones.....	Wm. Hill	S. J. Jones.....	J. H. Hollister	Chicago.
1882	Robert Boal.....	A. T. Darrah.....	S. J. Jones.....	J. H. Hollister	Quincy.
1883	A. T. Darrah.....	L. G. Thompson...	S. J. Jones.....	J. H. Hollister	Peoria.
1884	E. Andrews.....	D. S. Booth.....	S. J. Jones.....	Walter Hay.....	Chicago.
1885	D. S. Booth.....	S. C. Plummer....	S. J. Jones.....	Walter Hay.....	Springfield.
1886	William A. Byrd....	W. T. Kirk.....	S. J. Jones.....	Walter Hay.....	Bloomington.
1887	William T. Kirk...	Elias Wenger.....	D. W. Graham.	Walter Hay.....	Chicago.
1888	Wm. O. Ensign....	C. W. Earle.....	D. W. Graham.	Walter Hay.....	Rock Island.
1889	C. W. Earle.....	P. H. Oyler.....	D. W. Graham.	T. W. McIlvaine	Jacksonville.
1890	John Wright.....	J. P. Mathews....	D. W. Graham.	T. W. McIlvaine	Chicago.
1891	John P. Matthews.	Charles C. Hunt :.	D. W. Graham.	George N. Kreider..	Springfield.

EXPLANATORY.—No meeting was held in the year 1861 or 1862, "on account of the large number of members engaged as surgeons in the volunteer army of the United States.

Until the meeting of 1869 it was the custom to elect officers the first day, and for the President to have charge of the meeting at which he was elected. Hence Dr. Trowbridge seems to have presided over two meetings, although elected President but once.

*Preliminary "Convention."

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LIST OF MEMBERS.

Roman indicates those who have paid their dues for the current year.
SMALL CAPITALS life members.
*Life members who have paid dues for the current year.
Italics those who are delinquent one or more years.

NAME.	POSTOFFICE.	COUNTY.
Adams, A. L.	Jacksonville.	Morgan.
ANDREWS, EDMUND*	Chicago	Cook.
Andrews, E. Wyllys (2)	Chicago	Cook.
Andrews, Wells	Chicago	Cook.
Angear, J. J. M	Chicago	Cook.
Anderson, S. T. (2)	Bloomington	McLean.
Anthony, Frank	Sterling	Whiteside.
Babcock, R. H.	Chicago	Cook.
Ball, Charles E	Breese	Clinton.
Bane, W. H. (1)	Springfield	Sangamon.
Barlow, C	Eaton	Crawford.
Barnes, A. T. (1)	Bloomington	McLean
Barritt, W. M. (1)	Onarga	Iroquois.
Barnes, William	Decatur	Macon.
BARTLETT, A. T.*	Virden	Macoupin.
Bartlett, E. P	Springfield	Sangamon.
Baughman, J. A	Neoga	Cumberland.
Baxter, A. J	Astoria	Fulton.
Bean, Francis	Fairfield	Wayne.
Benson, N. J.	Anna	Union.
Bernhardi, Carl	Rock Island	Rock Island.
Bettman, B.	Chicago	Cook.
Billings, Frank	Chicago	Cook.
Bird, A. M	Mason City	Mason.
Bishop, S. S. (1)	Chicago	Cook.
Black, C. E	Jacksonville	Morgan.
Black, J. N	Clayton	Adams.
Blaine, John E	Dwight	Livingston.
BOAL, ROBERT	Peoria	Peoria.
BOGUE, R. G.	Chicago	Cook.

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NAME.	POSTOFFICE.	COUNTY.
Booth, D. S.*	Belleville	St. Clair.
Bolt, G. S	Herrick	Shelby.
Bouffleur, Albert I	Chicago	Cook.
Bowman, L. M. (1)	Scottville	Macoupin.
Boyles, J. M	Clay City	Clay.
Braffet, J. H. (1)	Paw Paw	Lee.
Braunworth, Anna M. (1)	Chicago	Cook.
Bremmer, H. A	Merritt	Scott.
reckenridge, Stephen L	Riverside	Cook.
Bridge, N. (2)	Los Angeles, Cal.	
Brill, John A	Chicago	Cook.
Broening, M	Carlyle	Clinton.
Brower, D. R	Chicago	Cook.
Brittin, A. L	Athens	Menard.
Brooks, H. J. (1)	Elgin	Kane.
Brown, Moreau R. (2)	Chicago	Cook.
Brown, E. J	Decatur	Macon.
Brown, J. L	Peoria	Peoria.
Brown, H. B. (1)	Lincoln	Logan.
Brown Sanger	Chicago	Cook.
Brockway, V. A. (2)	Chicago	Cook.
Bruner, J. M. O. (1)	Port Byron	Rock Island.
Buck, H. B. (1)	Springfield	Sangamon.
Bumstead, J. E	Dundee	Kane.
Burke, Charles O	Atlanta	Logan.
Burnham, A. F. (1)	Ashland	Cass.
Byford, H. T	Chicago	Cook.
Caldwell, W. S	Freeport	Stephenson.
Campbell, J. Y	Paxton	Ford.
Carter, J. M. G	Waukegan	Lake.
Casselberry, W. E	Chicago	Cook.
Catto, W. M	Decatur	Macon.
Chapin, Staley N	Chicago	Cook.
Chapman, H. W. (2)	Whitehall	Greene.
Chenoweth, C	Decatur	Macon.
Chenoweth, W. J	Decatur	Macon.
Chewning, J. (1)	Wenona	Marshall.
Chowning, J. P. (2)	Millersburg	Mercer.
Church, N. H. (2)	Chicago	Cook.
Clark, S	Effingham	Effingham.
Clarke, W. E. (2)	Chicago	Cook.
Cole, W. C. (2)	Jacksonville	Morgan.
Colburn, J. E. (2)	Chicago	Cook.

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NAME.	POSTOFFICE.	COUNTY.
Coleman, W. F. (2)	Chicago	Cook.
Conibear, W. H	Morton	Tazewell.
Cook, E. P	Mendota	La Salle.
Corr, L. H. (1)	Carlinville	Macoupin.
Corr, A. C	Carlinville	Macoupin.
Cotton, A. C. (2)	Chicago	Cook.
Coulter, J. H	Chicago	Cook.
Cowan, G. R. (1)	Girard	Macoupin.
Cozad, James*	Reynolds	Rock Island.
Craig, G. G	Rock Island	Rock Island.
Crane, W. W. (2)	Sinclair	Morgan.
Crawford, Napoleon B	Eureka	Woodford.
Crow, J. T	Carrolton	Greene.
Culbertson, S. D. (1)	Piper City	Ford.
Cullimore, T. M. (1)	Jacksonville	Morgan.
Curtis, Lester (2)	Chicago	Cook.
Curtis, R. M. (2)	Union	McHenry.
D*alton, W. B.* (1)	Scottville	Macoupin.
Danforth, I. N	Chicago	Cook.
Davis, C. E. (2)	El Paso	Woodford.
Davis, N. S.*	Chicago	Cook.
Davis, N. S. Jr	Chicago	Cook.
Davison, J. B	Moline	Rock Island.
Day, W. C	Winchester	Scott.
Deal, J. (1)	Riverton	Sangamon.
Detweiler, Edwin S	La Grange	Cook.
Dewey, R	Kankakee	Kankakee.
DeWitt, R. R. (2)	Hampshire	Kane.
Dicus, J. F	Streator	La Salle.
Dieffenbacher, P. L. (1)	Havana	Mason.
Dinsmore, Virginia	Jacksonville	Morgan.
Dixon, J. N	Springfield	Sangamon.
Dougall, William	Joliet	Will.
Douglas, D. T. (1)	Colfax	McLean.
Doyle, M. R. (2)	Rosemond	Christian.
Drew, A. M	Weldon	DeWitt.
Du Hadway, C. (1)	Jerseyville	Jersey.
Dudley, E. C	Chicago	Cook.
Dyas, G. K. (1)	Chicago	Cook.
Dyer, R. F. (1)	Ottawa	La Salle.
E*arle, C. W*	Chicago	Cook.
Earle, F. B. (2)	Chicago	Cook.

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NAME.	POSTOFFICE.	COUNTY.
Easley, William T	Greenville	Bond.
Eddy, W. J	Shelbyville	Shelby.
Eldridge, F. P. (1)	Greenview	Menard.
Engert, Rosa H	Chicago	Cook.
Ensign, W. O.*	Rutland	La Salle.
Ermine, L. E. (2)	Chicago	Cook.
Etheridge, J. H	Chicago	Cook.
Evans, C. W	Chicago	Cook.
Evans, J. W	Varna	Marshall.
Fenger, C	Chicago	Cook.
Ferguson, S. T. (1)	Joliet	Will.
Fiegenbaum, E. W. (1)	Edwardsville	Madison.
Fink, I. W	Hillsboro	Montgomery.
Fish, W. H	Baylis	Pike.
Fisher, J. C. (1)	Petersburg	Logan.
Fisk, George F	Chicago	Cook.
Fitch, T. D	Chicago	Cook.
Fitch, W. H. (1)	Rockford	Winnebago.
Fletcher, Joseph	Mendon	Adams.
Foster, A. H	Chicago	Cook.
Frank, Jacob (1)	Chicago	Cook.
Freeman, J. A	Millington	Kendall.
Frothingham, H. H. (1)	Chicago	Cook.
Fringer, G. W	Pana	Christian.
Fyke, E. E	Odin	Marion.
Gaffner, T	Trenton	Clinton.
Gardner, E. J. (1)	Chicago	Cook.
German, W. H. (2)	Morgan Park	Cook.
Gilson, George H. (1)	Shipman	Macoupin.
Goble, E. T. (2)	Earlville	La Salle.
Goldspohn, A	Chicago	Cook.
Goodell, W. L. (1)	Effingham	Effingham.
Goodman, H. (2)	Chicago	Cook.
Gordon, James	Greenville	Bond.
Gradle, H. (2)	Chicago	Cook.
Gordon, W. P	Carlyle	Clinton.
Gordon, J. H	Pocahontas	Bond.
Graham, D. W	Chicago	Cook.
Graves, B. C. (1)	Cisco	Piatt.
Graves, E. H. (1)	Bement	Piatt.
Gray, G. C	Smithboro	Bond.
Gray, J. L. (2)	Chicago	Cook.

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NAME.	POSTOFFICE.	COUNTY.
Green, J. W	Marengo	McHenry.
Griffith, B. B	Springfield	Sangamon.
Griffith, B. M	Springfield	Sangamon.
Grim, A	Franklin Grove	Lee.
Guthrie, H. R. (1)	Sparta	Randolph.
Guthrie, W. E	Bloomington	McLean.
Hairgrove, J. W	Jacksonville	Morgan.
Halbert, W. A	Salisbury	Sangamon.
Hallam, J. L	Centralia	Marion.
Hall, Charles W	Kewanee	Henry
HALLER, F. B	Vandalia	Fayette.
Hamilton, J. B	Chicago	Cook.
Hamil, Charles (1)	Greenview	Menard.
Hammond, J. D	Chicago	Cook.
Hancock, Joseph L	Chicago	Cook.
Hardy, H. T. (1)	Kaneville	Kane.
Harris, B. H	Groveland	Tazewell.
Hard, Chester (1)	Aurora	Kane.
Hardie, T. M. (2)	Chicago	Cook.
Harlan, J. H. (1)	Fairfield	Wayne.
Harris, M. L	Chicago	Cook.
Harsha, W. M, (1)	Chicago	Cook.
Harvey J. G. (1)	Bluemound	Macon.
Harvey, L. J	Griggsville	Pike.
Haskell, W. A. (1)	Alton	Madison.
HATCH, H	Quincy	Adams.
Hayes, P. S. (2)	Chicago	Cook.
Haynes, Moses	Vandalia	Fayette.
Haynes, Baxter	Hurricane	Montgomery.
HERRIOTT, E. L	Jacksonville	Morgan.
Heise, Ellen H	Canton	Fulton.
Hequembourg, Julien E	Chicago	Cook.
Hickman, T. G. (1)	Vandalia	Fayette.
Hoadley, A. E	Chicago	Cook.
Holder, J. (2)	Lanark	Carroll.
Holderness, E. P. G. (1)	Chenoa	McLean.
HOLLISTER, J. H	Chicago	Cook.
HOLMES, E. L	Chicago	Cook.
Hooper, H	Chicago	Cook.
Hornbeek, N. B	Youngstown	Warren.
Hotz, F. C. (1)	Chicago	Cook.
Hosmer, A. B. (1)	Chicago	Cook.
Hughes, N. J. (1)	Englewood	Cook.

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NAME.	POSTOFFICE.	COUNTY.
Hull, M. D	Arrowsmith	McLean.
Humphrey, A. J	Lakewood	Shelby.
HUNT, C. C. *	Dixon	Lee.
Hunter, Warren (2)	Hampton	Rock Island.
HURLBUT, V. L	Chicago	Cook.
Hurst, S. T. (1)	Greenview	Menard.
Hyde, J. N	Chicago	Cook.
INGALS, E.*	Chicago	Cook.
INGALS, E. F.*	Chicago	Cook.
ISHAM, R. N	Chicago	Cook.
JACKSON, A. R	Chicago	Cook.
Jaggard, W. W	Chicago	Cook.
James, A. C	Springfield	Sangamon.
JENKS, D. S	Plano	Kendall.
Jennings, C. A. (1)	Delavan	Tazewell.
Johnson, Claes W	Chicago	Cook.
JONES, G. W	Danville	Vermilion.
Jones, Herbert C	Decatur	Macon.
Jones, Josiah	Tallula	Menard.
JONES, S. J	Chicago	Cook.
Johnson, F. S	Chicago	Cook.
Johnson, C. B	Champaign	Champaign.
Jump, D. W. (1)	Plainfield	Will.
KELL, *A.* P. (1)	Cobden	Union.
Kellogg, A. H	Jacksonville	Morgan.
Kelso, E. L. (2)	Paxton	Ford.
Kelso, H. A. (1)	Paxton	Ford.
Kendall, H. W. (1)	Quincy	Adams.
Kennelley, John S	Easton	Mason.
Kerr, Charles (1)	Springfield	Sangamon.
Kinkead, A. G	Scottville	Macoupin.
Kirby, W. H	Chestnut	Logan.
Knight, Mary C	Aurora	Kane.
Knox, J. Suydam	Chicago	Cook.
Kossakowski, M. P	Chicago	Cook.
Kreider, George N	Springfield	Sangamon.
Kuh, Edwin J	Chicago	Cook.
Langdon, W. O. (1)	Springfield	Sangamon.
Leahy, M. M	Chicago	Cook.
Le Duc, E. H. (2)	Aurora	Kane.

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NAME.	POSTOFFICE.	COUNTY.
Lee, E. W	Chicago	Cook.
Leibrock, P. H	New Memphis	Clinton.
Ledlie, J. H	Pittsfield	Pike.
Legier, J. T	Keensburg	Wabash.
Leeds, L. L	Lincoln	Logan.
Lee, A. F. (1)	Quincy	Adams.
Lester, G. B. (1)	Oswego	Kendall.
Leonard, R. L. (2)	Chicago	Cook.
Lichty, Daniel (2)	Rockford	Winnebago
LITTLEFIELD, H. H.*	Beardstown	Cass.
Little, Jehu	Bloomington	McLean.
Long, H. H	Orion	Henry.
Long, L. L	Toulon	Stark.
Loomis, E. B	Chicago	Cook.
LORD, F. H.*	Plano	Kendall.
Luster, G. E	Larchland	Warren.
Lydston, G. F	Chicago	Cook.
Maclay, A. J. I	Delavan	Tazewell.
Malone, L. A. (1)	Jacksonville	Morgan.
Mansfield, W. A. (2)	Metamora	Woodford.
Manley, P. G	Keensburg	Wabash.
Martin, F. H, (2)	Chicago	Cook.
Martin, George H	Brownstown	Fayette.
Martin, W. S. (2)	Tuscola	Douglas.
Marshall, Ira E. (2)	Chicago	Cook.
Mather, H. H	Auburn Park	Cook.
Matthei, P. H	Chicago	Cook.
Matthews, J. P	Carlinville	Macoupin.
Maxwell, J. B	Mount Carmel	Wabash.
May, J. W. (1)	Mason City	Mason.
McArthur, L. L. (1)	Chicago	Cook.
McCullough, J. R	Chicago	Cook.
McFarland, Anne H	Jacksonville	Morgan.
McIlvaine, Thomas M. (1)	Peoria	Peoria.
McIntosh, A. J	Allendale	Wabash.
McIntyre, C. J	Chicago	Cook.
McKennan, H	Paris	Edgar.
McKenzie, W. R. (1)	Chester	Randolph.
McKinney, J. G	Barry	Pike.
McLaughlin, W. K	Jacksonville	Morgan.
McLain, J. H	Yale	Jasper.
McMann, W. W	Gardner	Grundy.
McMennamy, B. F	Bethany	Moultrie.

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NAME.	POSTOFFICE.	COUNTY.
McMurray, R. J. (1)	Linn	Wabash.
McNary, W. H	Martinsville	Clark.
McPherson, C. W	Hazelhurst	Whiteside.
McWilliams, S. A	Chicago	Cook.
Mergler, Marie J	Chicago	Cook.
Mileham, Samuel (1)	Camp Point	Adams.
Miller, De Laskie	Chicago	Cook.
Miller, D. W. (1)	Gilman	Iroquois.
Miller, John S. (2)	Peoria	Peoria.
Miller, J. H	Pana	Shelby.
Miller, Katharine	Lincoln	Logan.
Miller, T. W. (1)	Chicago	Cook.
Milligan, Josephine	Jacksonville	Morgan.
Mitchell, R. J	Girard	Macoupin.
Montgomery, E. B. (2)	Quincy	Adams.
Montgomery, W. T. (1)	Chicago	Cook.
Moon, O. W	Lockport	Will.
Morgan, Elijah A	Maroa	Macon.
Morton, Archibald J	Williamsfield	Knox.
Morton, James S	Vernon	Marion.
Moyer, H. N	Chicago	Cook.
Moyer, M. L	Butler	Montgomery.
Murfin, J. W	Vernon	Marion.
Murfin, W. W	Patoka	Marion.
Murphy, J. B. (1)	Chicago	Cook.
Mudd, W. A	Athens	Menard.
Myers, J. C	Clinton	De Witt.
Nash, A. (1)	Joliet	Will.
Nelson, D. T	Chicago	Cook.
Nesbitt, G. W. (1)	Sycamore	DeKalb.
Nevill, F. A	Meredosia	Morgan.
Newcomer, J. W	Petersburg	Menard.
Newman, H. P. (2)	Chicago	Cook.
Noble, C. M	McLean	McLean.
Nolan, E. C. (1)	Mount Pulaski	Logan.
Norbury, F. P	Jacksonville	Morgan.
Norris, A. L	Farmer City	DeWitt.
Nutt, F. L. (1)	Marengo	McHenry.
Ospray, Joan A	Dunning	Cook.
Owens, J. E	Chicago	Cook.
Oyler, P. H	Mount Pulaski	Logan.
Palmer, A. E. (2)	Morris	Grundy.

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NAME.	POSTOFFICE.	COUNTY.
Park, C.	Oquawka	Henderson.
Parke, C. R.	Bloomington	McLean.
Parkhurst, F. J.	Danvers	McLean.
PATTERSON, R. J.	Batavia	Kane.
Patton, G. W. (1)	Pana	Christian.
Patton, E. M.	Quincy	Adams.
Patton, J. M. (2)	Chicago	Cook.
Pegram, S. M.	Manchester	Scott.
Percy, James F.	Galesburg	Knox.
Pettyjohn, E. S. (1)	Chicago	Cook.
PITNER, T. J.*	Jacksonville	Morgan.
Pitner, F. R.	Clay City	Clay.
Plummer, S. C. (1)	Rock Island	Rock Island.
Pogue, Joseph	Edwardsville	Madison.
Poindexter, J. S.	Woburn	Bond.
Powell, A. M. (1)	Collinsville	Madison.
Pratt, H. L. (2)	Elgin	Kane.
Prescott, William (1)	Dallas City	Hancock.
Prince, A. E.	Springfield	Sangamon.
Prince, John A.	Springfield	Sangamon.
Prince, L. H.	Batavia	Kane.
Quales, Niles T.	Chicago	Cook.
Quine, William E. (1)	Chicago	Cook.
Rankin, A. C. (2)	Pullman	Cook.
Rauch, J. H.	Chicago	Cook.
Reagin, C. G.	DuQuoin	Perry.
Reasoner, R. W.	Morrisonville	Christian.
REED, N. S.*	Chandlerville	Cass.
Reece, M.	Abingdon	Knox.
Reynolds, A. R. (1)	Chicago	Cook.
Reynolds, H. J. (2)	Chicago	Cook.
Rhodes, J. E.	Chicago	Cook.
Richards, A. S. D. (2)	Chicago	Cook.
Richardson, H. W. (2)	Chicago	Cook.
Ridlon, John	Chicago	Cook.
Ring, John	Chicago	Cook.
Robbins, Joseph (1)	Quincy	Adams.
Robbins, M. M.	Aurora	Kane.
Robinson, F. C. (1)	Wyanet	Bureau.
Robison, J. A. (1)	Chicago	Cook.
Rook, Charles W.	Quincy	Adams.
Rooney, A. F.	Quincy	Adams.

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NAME.	POSTOFFICE.	COUNTY.
Rooney, M	Quincy	Adams.
Root, E. H. (1)	Chicago	Cook.
Roskoten, Robert	Peoria	Peoria.
Ross, G. W	Carrollton	Greene.
Rutherford, C. (2)	Chicago	Cook.
Ryburn, J. L	Ottawa	La Salle.
Sanders, J. W. (1)	Windsor	Shelby.
Sargent, A. M. (1)	Lincoln	Logan.
Sargent, Samuel (1)	Lincoln	Logan.
Schaefer, F. C. (1)	Chicago	Cook.
Schreiber, G. F	Maywood	Cook.
Schenck, J	Mount Carmel	Wabash.
Seaman, M. W	Shipman	Macoupin.
Senn, N	Chicago	Cook.
Servoss, A. G	Havana	Mason.
Shinn, W. R. (1)	Chenoa	McLean.
Shipp, F. J	Petersburg	Menard.
Silverthorn, L. L. (1)	Charleston	Coles.
Simmons, E. U. (1)	Erie	Whitesides.
Skeer, J. D. (2)	Chicago	Cook.
Sibley, C. W	Fairfield	Wayne.
Sloan, W. K. (2)	Moline	Rock Island.
Smith, C. F	Kankakee	Kankakee.
Smith, Lee	Bloomington	McLean.
Songer, W. E	Iuka	Marion.
Sparling, W. H	Moaweaqua	Shelby.
Spear, J. W	Mason City	Mason.
Spear, L. E	Shirley	McLean.
Sprague, T. J	Joliet	Will.
Standley, Emma B. (1)	Alexis	Warren.
Standley, J. W. (1)	Alexis	Warren.
Starkey, H. M	Chicago	Cook.
Starkweather, R. E	Chicago	Cook.
Steele, D. A. K	Chicago	Cook.
Stephenson, B. M	Kilbourn	Mason.
Stoddard, G. W	Ramsey	Fayette.
Stowell, J. H	Chicago	Cook.
Stringfield, C. P	Chicago	Cook.
Strong, A. B	Chicago	Cook.
Stubblefield, Frank (1)	El Paso	Woodford.
Stubbs, James E	Chicago	Cook.
Studer, Joseph (1)	Peoria	Peoria.
Sweetland, W. M. (2)	Highland Park	Cook.

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NAME.	POSTOFFICE.	COUNTY.
Taylor, T. G. (2)	Ashton	Lee.
THOMPSON, L. G	Lacon	Marshall.
Thompson, Mary H	Chicago	Cook.
Thompson, P. C	Jacksonville	Morgan.
Tilley, Robert	Chicago	Cook.
Todd, J F. (1)	Chicago	Cook.
Tombaugh, L. H	Milburn	Lake.
Tope, J. W	Oak Park	Cook.
Townsend, J	Springfield	Sangamon.
Trout, Elizabeth H	Chicago	Cook.
Truesdale, C. (2)	Rock Island	Rock Island.
Tweddale, James	Washburn	Woodford.
Tyler, John H	Clinton	DeWitt.
Tyler, W. R	San Jose	Mason.
Vanderhoof, H. W. (2)	Roselle	Du Page.
Van Horn, A. K. (1)	Jerseyville	Jersey.
Veach, W. H. (1)	Carthage	Hancock.
Vertrees, C. M. (1)	Murrayville	Morgan.
Verity, W. P. (1)	Chicago	Cook.
Wallace, J. H	Monmouth	Warren.
Walker, J. B	Effingham	Effingham.
Waln, J. R. (1)	Peoria	Peoria.
Walters, J. P	Fairfield	Wayne.
Ward, C. W	Chicago	Cook.
WARE, LYMAN	Chicago	Cook.
Warren, W. B	New Berlin	Sangamon.
Watson, Walter	Mount Vernon	Jefferson.
Waxham, F. E	Chicago	Cook.
Webster, G. W	Chicago	Cook.
Webster, John C	Chicago	Cook.
Webster, J. R	Monmouth	Warren.
Weis, E. W. (2)	Ottawa	La Salle.
Welch, W. W	Galesburg	Knox.
Westcott, C. D. (1)	Chicago	Cook.
Wetmore, A	Waterloo	Monroe.
White, D. A. (1)	Carlock	McLean.
White, J. L	Bloomington	McLean.
Whitley, J. D. (1)	Petersburg	Menard.
WHITMIRE, J. S	Metamora	Woodford.
Whitmire, J. W. (1)	Forrest	Livingston.
Whitten, T. J	Jacksonville	Morgan.
Wilcox, E. A	Minonk	Woodford.

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NAME.	POSTOFFICE.	COUNTY.
Wilcox, L. S. (2)	Champaign	Champaign.
Wilder, W. H	Chicago	Cook.
Wiley, F. A. (1)	Earlville	La Salle.
Wilson, W. G. (1)	Shelbyville	Shelby.
Will, O. B	Peoria	Peoria.
WILLARD, E. R	Wilmington	Will.
Williams, John. F. (1)	Chicago	Cook.
Windette, R. A	Aurora	Kane.
Wing, E	Chicago	Cook.
Wood, C. A. (2)	Chicago	Cook.
Woodworth, P. M	Chicago	Cook.
WRIGHT, JOHN*	Clinton	Cook.
Wylie, S. M. (1)	Paxton	Ford.
Zeller, George A. (1)	Peoria	Peoria.

MEMBERS IN ATTENDANCE.

Adams, A. L.....Jacksonville	Conibear, W. H.....Morton
Andrews, W.....Chicago	Cook, E. P.....Mendota
Angear, J. J.....Chicago	Corr, A. C.....Carlinville
Boyles, J. W.....Clay City	Corr, L. H.....Carlinville
Ball, Charles E.....Breese	Coulter, J. H.....Chicago
Barlow, C.....Eaton	Clark, S.....Effingham
Bartlett, E. P.....Springfield	Davis, N. S.....Chicago
Benson, N. J.....Anna	Davis, N. S. Jr.....Chicago
Bernhardi, C.....Rock Island	Danforth, I. N.....Chicago
Bettman, B.....Chicago	Dewey, R.....Kankakee
Black, C. E.....Jacksonville	Dicus, J. F.....Streator
Black, J. W.....Clayton	Dougall, W.....Joliet
Brower, D. R.....Chicago	Dinsmore, Virginia...Jacksonville
Broening, M.....Carlyle	Eddy, W. J.....Shelbyville
Brown, E. J.....Decatur	Ensign, W. O.....Rutland
Burke, C. O.....Atlanta	Etheridge, J. H.....Chicago
Bean, Francis.....Fairfield	Fish, W. H.....Baylis
Baughman, J. A.....Neoga	Fyke, E. E.....Odin
Barnes, William.....Decatur	Frenger, G. W.....Pana
Caldwell, W. S.....Freeport	Gordon, James.....Greenville
Carter, J. M. G.....Waukegan	Graham, D. W.....Chicago
Chapman, H. W.....Whitehall	Gray, G. C.....Smithboro
Chenoweth, W. J.....Decatur	Griffith, B. B.....Springfield

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Guthrie, W. E.....Bloomington
Gordon, W. P.....Carlyle
Gordon, John H.....Pocahontas
Hairgrove, J. W.....Jacksonville
Hallam, J. L.....Centralia
Harris, B. H.....Groveland
Haynes, M.....Vandalia
Heise, E. M.....Canton
Hoadley, A. E.....Chicago
Hall, Charles W.....Kewanee
Hunt, C. C.....Dixon
Haynes, Baxter.....Hurricane
Ingals, E. F.....Chicago
Jones, Herbert C.....Decatur
Johnson, C. B.....Champaign
Kinkead, A. G.....Greenfield
Knight, M. C.....Aurora
Kreider, G. N.....Springfield
Leahy, M. M.....Chicago
Little, J.....Bloomington
Manley, P. G.....Keensburg
Matthews, J. P.....Carlinville
Maxwell, J. B.....Mount Carmel
McIntosh, A. J.....Allendale
McIntyre, C. J.....Chicago
McLain, J. H.....Yale
McMennamy, B. F.....Bethany
McFarland, A. H.....Jacksonville
McPherson, C. W.....Hazlehurst
Miller, J. H.....Pana
Miller, K.....Lincoln
Milligan, J.....Jacksonville
Murfin, J. W.....Vernon
Murfin, W. W.....Patoka
Morton, J. S.....Vernon
Martin, George H....Brownstown
Norbury, F. P.....Jacksonville
Oyler, P. H.....Mt. Pulaski
Patton, Ella M.....Quincy
Parke, C. R.....Bloomington
Pitner, T. J.....Jacksonville
Prince, A. E.....Springfield
Pitner, F. R.....Clay City
Poindexter, J. S.....Woburn
Rauch, J. H.....Chicago
Reagin, C. G.....Duquoin
Rooney, A. F.....Quincy
Rooney, M.....Quincy
Schneck, J.....Mount Carmel
Sibley, C. W.....Fairfield
Smith, C. F.....Kankakee
Smith, L.....Bloomington
Sparling, W. H.....Moweaqua
Spear, L. E .....Shirley
Steele, D. A. K.....Chicago
Sanger, W. E.....Iuka
Stoddard, G. W.....Ramsey
Tweddale, J.....Washburn
Walters, J. P.....Fairfield
White, J. L.....Bloomington
Whitten, T. J.....Nokomis
Will, O. B.....Peoria
Windette, R. A.....Aurora
Wing, E.....Chicago
Wright, J.....Clinton
Wilder, W. H.....Chicago
Walker, J. B.....Effingham
Welch, W. W.....Galesburg
Watson, Walter....Mount Vernon

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A List of the Accredited Local Medical Societies of Illinois whose Members are Eligible to Membership in the State Medical Society.

Æsculapian Society of the Wabash Valley.
Aurora Medical Society.
Brainard District Medical Society.
Cairo Medical Society.
Capital District Medical Society.
Centennial Medical Society of Southeastern Illinois.
Chicago Medical Society.
Chicago Pathological Society.
Chicago Gynecological.
District Medical Society of Central Illinois.
Embarrass Valley Medical Society.
Fox River Valley Medical Association.
Illinois and Iowa Central District Medical Association.
Medical and Surgical Society of Western Illinois.
Military Tract Medical Society.
Monmouth Medical Club.
North Central Illinois Medical Association.
Southern Illinois Medical Association.
Wabash Valley Medical Society.

Adams County Medical Society.
Bond County Medical Society.
Champaign County Medical Society.
Clinton County Medical Society.
Crawford County Medical Society.
De Witt County Medical Society.
Hancock County Medical Society.
Jasper County Medical Society.
Jersey County Medical Society.
Johnson County Medical Society.
Lake County Medical Society.
La Salle County Medical Society.
McLean County Medical Society.
Macon County Medical Society.
Macoupin County Medical Society.
Monroe County Medical Society.
Morgan County Medical Society.
Perry County Medical Society.
St. Clair County Medical Society.
Shelby County Medical Society.
Stephenson County Medical Society.
Wabash County Medical Society.
Whiteside County Medical Society.
Will County Medical Society.

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ADDENDUM.

[Accidentally omitted from the minutes.]

REPORT OF THE COMMITTEE ON LEGISLATION FOR THE INSANE.

Your committee would respectfully report that the hoped-for legislation in amendment of the Jury Commitment law failed at the last session of the legislature, although an excellent bill for the revision of the present law was introduced, thoroughly discussed and amended so as to be satisfactory to all interested. This bill was reported favorably near the end of the session by the House Judiciary Committee, and would, in all probability, have passed but for lack of time.

We trust the members of the Society will continue their interest in this reform and will labor individually with the members from their respective districts for pushing this law to its passage when the legislature shall again assemble.

We also earnestly recommend our members to use their influence to secure provision for the insane now unprovided for in this state, of whom there are not less than 3,000, at least half of whom are in a pitiable condition in our almshouses and jails.

Respectfully submitted,

EPHRAIM INGALS, *Chairman*,
per RICHARD DEWEY.

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Constitution and By-Laws,

AS REVISED 1892.

...Historical...

THE preliminary convention of physicians which met in Springfield, June 4, 1850, resolved itself into the ILLINOIS STATE MEDICAL SOCIETY, and adopted a constitution and by-laws with the following preamble and resolution:

> *Whereas*, the Medical convention held in the city of Springfield, in June, 1850, has declared it expedient "for the Medical convention of the State of Illinois to institute a State Medical Society," and
>
> Inasmuch as an institution so conducted as to give frequent, united and emphatic expression to the views and aims of the medical profession in this state must at all times have a beneficial influence, and supply more efficient means than has hitherto been available here for cultivating and advancing medical knowledge; for elevating the standard of medical education; for promoting the usefulness, honor and interests of the medical profession; for enlightening and directing public opinion in regard to the duties, responsibilities and requirements of medical men; for exciting and encouraging emulation and concert of action in the profession, and for facilitating and fostering friendly intercourse between those who are engaged in it; therefore,
>
> *Be it Resolved*, In behalf of the Medical convention of the State of Illinois, that the members of the Medical convention held in Springfield, in June, 1850, and all others who, in pursuit of the objects above mentioned, are to unite with or succeed them, constitute a State Medical Society; and that for the organization and management of the same, they adopt the following regulations.

First General Revision, 1870.
Second General Revision, 1878.
Revised in present form, 1890-1892.

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...Constitution...

Article I.—Name.

This society shall be called The Illinois State Medical Society.

Article II.—Objects.

The objects are: The organization of the profession of the state for its united influence on questions pertaining to public charities, state asylums and other institutions, and on all questions of a medical, sanitary, charitable or educational nature, and the procuring of such legislation as will reflect the views and aims of the medical profession in relation thereto; and also to promote those scientific, social and professional interests for which medical societies are usually organized.

Article III.—Membership.

1. All regular resident members of the County and District Medical Societies within the State, organized in harmony with the spirit and objects of this Society, are eligible to membership.

2. They may become members at any time by furnishing the Treasurer or Permanent Secre-

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tary a certificate of membership and good standing in such local society, the certificate to be signed by the president and secretary thereof, and accompanied by one year's dues.

3. The names of new members shall be submitted to the Society at each annual meeting by the Committee on Registration, when any name, being objected to, may be dropped or referred to the Judicial Council, as the Society may direct.

4. When members lose their membership and good standing in their several local societies, they shall cease to be members of this Society.

5. Members failing to pay dues for three successive years, may be suspended and dropped from the roll by a majority vote of the Society.

6. Members shall be liable to censure, suspension or expulsion for unprofessional conduct.

7. *Life members* shall be those who have paid annual dues for twenty consecutive years, and such worthy members as the Society may designate. by special vote on account of loss of health or other misfortune. They shall be exempt from the payment of annual dues, but shall have all the rights and privileges of other members.

Article IV.—Officers.

1. The officers of the Society shall be a President, a First Vice-President, a Second Vice-President, a Permanent Secretary, an Assistant Secretary, a Treasurer, nine Councillors to con-

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stitute the Judicial Council, and a Chairman and Secretary for each of the Sections.

2. The officers shall be elected annually, beginning their terms of office at the close of the meeting electing them; except the Permanent Secretary, who shall serve during the pleasure of the Society, and the Councillors, who shall each serve three years—three being elected each year. Each officer shall serve until his successor is elected.

Article V.—Duties of Officers.

1. The duties of the President shall be those usually pertaining to that office. He shall also give the annual address at the meeting over which he presides and shall be *ex officio* Chairman of the Executive Committee.

2. The Vice-Presidents in their order shall perform such duties as generally pertain to the office of Vice-President. They shall also serve as an Auditing Committee, to whom the treasurer's annual report shall be referred for examination.

3. The Permanent Secretary shall, with the aid of a stenographer, make a faithful record of the proceedings of each meeting; conduct the official correspondence; notify members of the meetings, officers of their election, and committees of their appointment; preserve the archives of the Society; receive all matter intended for publication in the transactions, and discharge such other duties as pertain to his office. He shall be Chairman of the Committee

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on Publication, and as such shall superintend the publication and distribution of the annual transactions.

4. The Assistant Secretary shall aid the Permanent Secretary as may be required. He shall be a resident of the place where the Society meets. He shall be a member of the Committee of Arrangements and of the Committee on Registration.

5. The Treasurer shall have the custody of the funds, receive the dues of members, notify those in arrears at least twice each year—once immediately after, and once before each annual meeting; furnish an official list of members for the transactions, make an annual report which shall show the receipts and expenditures of the year ending with the day preceding the first day of the annual meeting, together with the number of members, the number in arrears, the names of those liable to suspension under Section 5, Article III, and the number dropped from the roll during the year, and shall perform such other duties as pertain to his office. He shall, with the Assistant Secretary, be a Committee on Registration. He shall be a member of the Committee on Publication and to the other two members of this committee he shall give a bond for the safe keeping of the funds and the proper discharge of his trust. He shall disburse no funds of the Society except on the written endorsement of the President and Permanent Secretary.

6. The duties of the Judicial Council shall be to consider all questions of an ethical or personal character involving the rights or standing

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of members. Such questions shall be referred to the Council without discussion, and the decisions of the Council thereon shall be reported promptly to the Society, and shall be final, if previously so ordered. The Council shall also consider any other matters that may be referred to it by the Society and shall keep a permanent record of its proceedings.

Article VI.—Standing Committees.

1. The Standing Committees shall be:

The Executive Committee.
The Committee of Arrangements.
The Committee on Registration.
The Committee on Publication.
The Committee on Necrology.
The Committee on Legislation.
The Committee on Medical Societies.

Article VII.—Duties of Standing Committees.

1. The Executive Committee shall consist of the President, the Permanent Secretary, the Chairman of the Committee of Arrangements and the Chairman of each of the Sections. This Committee shall determine the character and scope of the scientific business and the order of the proceedings for each meeting, subject to any instructions of the Society or provisions of the by-laws, apportion the time as between the general sessions and the several Sections, and previous to each annual meeting

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prepare a program of the scientific and other business to be followed by the Society and the Sections as nearly as practicable, which shall be issued by the Permanent Secretary.

2. The Committee of Arrangements shall consist of five members including the Assistant Secretary. It shall be the duty of this committee to provide suitable accommodations for the meeting under the direction of the Executive Committee and in general to have charge of all the local and material interests of the meeting, not otherwise provided for.

3. The Committee on Registration, consisting of the Treasurer and Assistant Secretary *ex officio*, shall record the names, the post office addresses, and the local societies of those members in attendance who have paid their dues for the current year. The list of names so registered shall be the official list for use of the Society during that meeting.

4. The Committee on Publication shall consist of the President, the Permanent Secretary and the Treasurer. The Permanent Secretary shall be Chairman of the Committee, who, jointly with the President, shall hold the Treasurer's official bond. The Committee shall have all the functions of a Finance Committee, and shall have charge of all matters relating to the publication of the transactions of the Society, with discretionary power to omit therefrom any paper, address or discussion, or any part thereof, on account of its length or want of preparation, or of a failure to receive copy or proof promptly.

5. The Committee on Necrology, consisting of three members, shall prepare for each meet-

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ing suitable biographical notices of deceased members.

6. The Committee on Legislation shall consist of three members, and the President *ex officio*. The duties of this Committee shall be to watch the course of state legislation on medical subjects, to represent the Society in securing proposed legislation, to recommend to the Society for its endorsement proper subjects for legislation, and to report the status of pending or proposed measures.

7. The Committee on Medical Societies, consisting of three members, shall use means to promote a more complete organization of the profession of the state into county or district societies, and to establish reciprocal relations between them and this Society, and shall collect and report such a list and statistics of all local societies in affiliation with this Society as will be suitable for publication in the transactions.

This list, as revised and adopted from year to year, shall serve as an official guide for all purposes of the Society or any of its officers or committees.

8. All standing committees shall make an annual report in writing.

Article VIII.—Funds and Dues.

1. Funds shall be raised by the Society to accomplish the objects for which it is organized, and no appropriation shall be made for other purposes.

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2. The annual dues of members shall be three dollars, except as otherwise provided, and shall be payable at the beginning of each meeting.

3. No member in arrears shall be entitled to receive the annual transactions.

4. No member or committee shall incur any pecuniary liability for the Society without a vote of the Society or the previous written approval of the Committee on Publication.

Article IX.—Amendments.

This Constitution may be changed at any annual meeting by three-fourths of the members present, provided notice of such proposed change shall have been given at the preceding meeting.

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...By-Laws...

Article I.—Meetings.

1. The Society shall meet annually on the *third* Tuesday of May and continue in session three days, or until the business of the meeting shall be completed.

2. The place of meeting shall be determined by vote of the Society, provided that every second meeting shall be held in the City of Springfield, corresponding to the biennial sessions of the legislature.

3. The Executive Committee shall have power to change the time and place of meeting for cause.

4. Special meetings may be called by the Executive Committee on the request of ten members. No business shall be transacted at a special meeting except that specified in the call.

5. The necessary expenses of the meetings shall be paid from the treasury of the Society.

Article II.—Sections.

1. For the transaction of scientific business there shall be three Sections, viz.:

Section One. Including the Practice of Medicine, Medical Specialties and Materia Medica and Therapeutics.

Section Two. Including Surgery, Surgical Specialties and Obstetrics.

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Section Three. Including Etiology, Hygiene, State Medicine and Medical Jurisprudence.

2. An address not to exceed thirty minutes in length, pertaining in character to the subject-matter of each Section, shall be delivered in the general sessions, when so ordered by the Society.

3. Those to give the addresses may be chosen as the officers of the Society are chosen, or otherwise, as the Society may direct.

4. It shall be the duty of the Chairman and Secretary of each Section to provide suitable papers and discussions for their Section, subject to instructions of the Society and the Executive Committee, and to conduct the proceedings of the Section when in session.

5. The Sections shall meet in rotation or separately at the same hour, as may be determined by the Executive Committee.

ARTICLE III.—COMMITTEE ON NOMINATIONS.

1. At each annual meeting a Committee on Nomination shall be organized and shall consist of a representative of each local Society having one or more members in attendance and registered. Such representative may be chosen by the local Society previous to the meeting or by a majority of its members in attendance. Those so chosen and the local Society they represent shall be announced on the morning of the second day as the Nominating Committee; provided that representatives of other local societies coming later, so chosen and announced, may be added to the Committee at any time.

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2. The duties of the Committee shall be to nominate candidates for all the offices and standing committees, except as otherwise provided, and to recommend a place for the next meeting when it is not to be held at the Capital.

3. The Committee may also nominate delegates to other societies, and shall consider and report upon any other matters that may be referred to it by the Society.

ARTICLE IV.—PAPERS.

1. It shall be the duty of every member desiring to present a paper to the Society to communicate with the officers of the appropriate Section and forward the title of the same at least one month before the annual meeting.

2. No paper or address shall be received by the Society that has already been published, or read in another Society.

3. No paper or address shall be printed in the transactions unless it shall have been read in full or in abstract before the Society and referred by the Society to the Committee on Publication.

4. Members may have copies of their papers or addresses published in medical journals, provided credit is given the ILLINOIS STATE MEDICAL SOCIETY, and the original shall have been placed in the hands of the Committee on Publication.

5. Papers announced in the printed program shall have precedence over all others.

6. No paper shall exceed twenty minutes in length.

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ARTICLE V.—MISCELLANEOUS.

1. Reputable practitioners of medicine who may be in attendance at any annual meeting may be extended the courtesies of the Society for that meeting, with the privilege of participating in the scientific proceedings, when recommended in writing by two members and having received a majority vote. They shall be known as *Invited Guests*.

2. In discussions, each speaker shall be limited to ten minutes, and no one shall speak twice on the same subject without permission of the Society.

3. Every member, before addressing the Society, may be required to give his name and address, which shall be announced by the chair.

4. For the transaction of business other than scientific, a quorum shall consist of twenty members.

5. Every member shall be registered before participating in any part of the meeting.

6. Applying for membership and paying dues shall be held equivalent, in the obligation of members, to a formal subscription to the Constitution and By-Laws.

7. In discussions, a motion for the previous question must be supported by five members.

8. On all questions of order not provided for by these regulations, Cushing's Manual shall be the guide.

9. These By-Laws may be suspended or changed at any annual meeting by a three-fourths vote of the members present.

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The Illinois State Medical Society.

PROCEEDINGS

OF THE FORTY-SECOND ANNUAL MEETING,

Held at Vandalia, May 17, 18 and 19, 1892.

FIRST DAY—TUESDAY MORNING.

The Society met in the Grand Army hall and was called to order by the President, Dr. Charles C. Hunt, of Dixon, at 10 o'clock.

Prayer was offered by the Rev. B. R. Pierce, D. D., of Vandalia.

President Hunt then introduced the Hon. W. M. Folger, President of the Board of Education, Vandalia, who delivered the following

ADDRESS OF WELCOME.

Friends and Fellow Citizens of the great State of Illinois: It becomes my pleasing and honorable duty, by appointment of the Mayor, and the Committee of Arrangements, to extend to you, our guests, a cordial welcome to the city of Vandalia—one of the oldest and best known cities in our beloved state. We feel honored by your presence, and greet you as representatives of one of the noblest professions. Your profession bears the mark of age. It has come down to us in a crude scientific form, from the days when God so miraculously led the children of Israel

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from the bondage land of the Egyptians, through the hot air desert, where no rippling streams made music for their march or quenched their burning thirst. We see it silently working for the good of humanity in the days of Abraham, Isaac and Jacob. We see it creeping along the shores and islands of the Mediterranean and spreading over Europe in the dark and barbarous ages that intervened between the downfall of Rome and the discovery of the art of printing. Throughout all our colonial history this science was being developed, and when our government emerged, weary and blood-stained from the Revolution, our forefathers gave willing testimony that she had done her duty to the sick, the wounded and the dying on the field of battle.

Yours is an honorable profession. It is the grand regulator of the Almighty's supreme work—man himself; therefore its seat is the bosom of God, and its voice the harmony of the world. "It is the pride of the human intellect, and the collected wisdom of ages. Its study employs the noblest faculties of the soul, and it exerts in its practice the cardinal virtues of the heart."

It is given no man to see the heart unveiled; but the physician sees more of the passions, the vices and the virtues of life than any other. He sees life in the light and in the shade; in ecstacy and in despair; in glory and in shame; in fact, he sees it in all its phases and vicissitudes and conditions.

He is present when the mother goes down in the dark valley and the new-born babe opens its eyes upon the world for the first time, and he is present when the last sad summons comes, and we wrap the drapery of our couch about us and lie down to pleasant dreams.

The science of medicine is as broad as humanity itself. No man has ever thoroughly mastered it. It calls for work—honest, hard work, if success follows. "He who stands at the head of this profession is on a level with the most elevated in the land, and instead of owing his eminence to the solicited suffrages of others, he has the proud satisfaction of having achieved it himself." But why multiply words on a subject with which you are more familiar than myself?

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I am here to bid you welcome to our city, and to our homes. We have here many things of which we are justly proud. So far as natural advantages are concerned we are highly favored. We do not claim this to be the garden spot of America, but our rural population have learned that this is the "land of the big red apple," and almost all manner of fruit. We have sufficient forest for fuel and factories. Water, pure and sparkling, gurgles up from stony depths and flows in rippling splendor through our beautiful city, and in sufficient quantities not only for domestic use, but to turn a thousand mills and wheels of industry. We have no wide and insalubrious marshes that can not be drained and cultivated, no sandy plains that do not yield to culture, but almost every broad acre is rich in the elements of plant growth, and yield abundantly. Spring, with her balmy breath, first kisses our soil as she winds her way up over Egypt, giving us soft air and Italian skies to develop our splendid fruit. Our churches are the pride of our citizens, and on these we build our moral hope. Our public schools are our enduring monuments, and gather under their domes hundreds of bright immortal minds, to flush and thrill them with the genial and gladdening light of knowledge.

I extend to you a cordial and hearty welcome to these evidences of our high civilization. We feel honored by your presence, and believe you will find our citizens as hospitable as our soil is productive and climate salubrious.

We welcome you, then, to the "Old Capital City," where the "Little Giant," Stephen A. Douglas, who had the courage and patriotism to say, "Country first and party afterward," fought some of his hardest battles. Yes, ladies and gentlemen, I bid you thrice welcome to the former home and haunts of that rail-splitter who was assassinated at Washington at the end of a civil war, and over whose eloquence, as well as over whose statesmanship, every zone of the planet stood hushed in wonder. He was born in a hovel and climbed the rugged steeps of life by his own efforts, until he found the place God made for him at the summit of political power in the foremost nation of modern times. May you carry away from this historic spot happy

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memories as you look back upon this meeting, is the earnest wish of your Vandalia friends.

RESPONSE BY DR. N. S. DAVIS, CHICAGO.

Mr. President: I certainly rise with a great deal of cheerfulness to respond to the cordial welcome that has been extended to us in the few minutes that have passed, and in behalf of the whole Society I would render thanks to the speaker for the cordial and liberal words with which he has welcomed us to this city. And not only to respond to the cordial welcome, but I would go farther, and I think I shall express the sentiments of every individual here when I say that we have already, before the speaker had said a word, had a sufficient demonstration of the cordial welcome of this Society to Vandalia. For whether we came in the night or in the day the citizens and members here were at our elbows, not to take us to hotels, but to take us to their own homes.

Another thing. I can well believe all that has been said in regard to the fruitfulness of this place and the productions of the soil. The doctors here have some of the best and most elegant residences, and one of the first things my little boy (grandson), about eleven years old, said last night was, "What a very nice place we are coming into." This was a spontaneous exclamation, and it is the same that touches the hearts of all of us. Whether our meeting yields a great harvest of scientific knowledge and attainments or not, we have come together to exchange ideas and new thoughts and to enlarge the field of our mental store by which we may do better hereafter, and we will go to our homes when we get through with our business carrying with us pleasant memories of our visit to Vandalia on this occasion. What makes it better, Providence has sent sunshine to add to our welcome, and when the skies and the people welcome us and everything is pleasant, could we be otherwise than happy? Certainly not, and I will not detain you to enlarge any upon the general theme of medicine.

It has been well said by the speaker that there are few callings in life that are calculated to bring out the noblest faculties

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of man better than the legitimate proper following of the medical profession. As a science it is rich in provision, in that it culls from every department of science known to man its facts, its principles, not for worldly gain, not for merely putting dollars in the pocket, not for building railroads or monuments, but it culls from them for what purpose? For the one great and paramount object of alleviating human suffering and prolonging man's life. Can you get anything higher, anything nobler in the end than this? We expend a great deal of labor, we exact a great deal of study in the advancement of our profession. If chemistry advances, if the natural sciences advance, if a new thing is developed that can be brought to bear and turned to the benefit of mankind, it is our profession that does it. You can not improve the magnifying power without we look deeper and more minutely into the structures of the human body, both healthy and morbid. You can not show us a new advance in any direction but what has something in it to alleviate human suffering or add to human happiness. The very object of the profession is of the highest and noblest character, and though I have been lecturing many, many long years, yet I must say my enthusiasm for it is still growing after three-quarters of a century of life, and I am not sorry that it is so.

It has been said that physicians as they grow old become skeptical, and that the profession after all does not amount to as much as in their younger or youthful days; that it is little else than nature after all that does anything. Nature is the mother, master, director in both health and disease, but that does not make the position of the physician a nonentity, to fold his arms and see what nature is going to do. It is his business to see how nature works in the way of relieving disease, so that the physician stands as the helpmeet at every step, that by his intelligent interference he may rescue the individual where the processes of nature would fail to do it. That is where we come in as physicians. It is not to arm ourselves against nature, not to rule nature, but find the natural forces of the living human body and of the elements that surround it of every kind, what relation they bear, what laws they are governed by, and then,

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like the engineer who guides his engine (but does not profess to make the steam), help nature in her processes, lest otherwise failure, prolongation of suffering, and sometimes both, should occur. But I will not take up your time by more extended remarks. I desire again to extend our thanks to the speaker and the citizens of Vandalia for the cordial welcome we have received.

The President called for a report from the Committee of Arrangements.

Dr. Francis B. Haller, Chairman of the Committee, reported as follows:

Mr. President and Members of the Society: I am very glad to greet you this morning. This hall has been secured for your use, and other rooms in the building will be at your disposal at any time during the meeting if they should be needed.

The President's address and Dr. Wines' address, as stated in the program, will be held in the Methodist Episcopal Church, Wednesday evening, and the exercises there will be interspersed with music.

We have secured for you railroad rates of a fare and one-third for the round trip, and those of you who desire to take advantage of this must present your certificates, after they are properly signed, to the agent of the roads, to be stamped. This can be done only on Wednesday, on which day the agent will be in attendance.

We have made arrangements to feed the inner man, and have secured accommodations for you to rest your weary bodies while you remain with us. Those who have not been provided for at the hotels or private houses should report to Dr. Higgins, of our Committee.

You are invited to a reception at my residence this evening, from 8 to 10 o'clock. It will be informal, and we hope all will come.

REPORT OF THE EXECUTIVE COMMITTEE.

The President: It appears, under the new order of things, that the President is Chairman of this Committee.

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The chief item I have to report for the Committee is the following program, which has been printed and already placed in your hands, hence it is not necessary for me to read it through. If accepted it becomes the established order for the meeting, and can not be departed from unless it should be suspended by a vote of the Society.

Should the work of the Society seem to require it, we will have two sections in session at the same hour, but this will not be determined, probably, until to-morrow noon.

ORDER OF PROCEEDINGS.

FIRST DAY.—TUESDAY MORNING.

1. Call to order at 10 o'clock by the President, CHARLES C. HUNT, Dixon.
2. Prayer by the REV. B. R. PIERCE, D. D., Vandalia.
3. Address of Welcome, by the HON. W. M. FOLGER, President of the Board of Education, Vandalia.
4. Response in behalf of the Society, by N. S. DAVIS, Chicago.
5. Report of the Committee of Arrangements, F. B. HALLER, Vandalia, Chairman.
6. Report of the Executive Committee, the President, *ex-officio*, Chairman.
7. Miscellaneous Business.—Communications by the Permanent Secretary, etc.
8. Report of the Committee on Necrology, EPHRAIM INGALS, Chicago, Chairman.
9. Report of the Committee on Biography, J. H. HOLLISTER, Chicago.
10. Address pertaining to Section ONE, WILLIAM E. QUINE, Chicago. Subject: (Not received).
11. Announcements. Miscellaneous. Noon adjournment at 12 o'clock.

FIRST DAY.—AFTERNOON.

12. Call to order by the President at 2 o'clock.
13. Announcements. Miscellaneous business.

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14. At 2:15 o'clock call to order of Section ONE, T. M. CULLIMORE, Jacksonville, Chairman; J. W. WHITMIRE, Forrest, Secretary.

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15. PAPERS AND DISCUSSIONS:

(1) *Therapeutic Illusions and Delusions, or False Inferences in Medical Practice:* N. S. DAVIS, Chicago. Discussion: J. L. White, Bloomington, and Ephraim Ingals, Chicago, to open.

(2) *Medical Uses of Ergot*: KATHARINE MILLER, Lincoln. Discussion: I. N. Danforth, Chicago, and Ella Patton, Quincy, to open.

(3) *Chronic Inflammations of the Brain:* W. J. EDDY, Shelbyville. Discussion: J. H. Etheridge, Chicago, and F. P. Norbury, Jacksonville.

(4) *Infantile Paralysis:* D. R. BROWER, Chicago. Discussion: W. J. Eddy, Shelbyville.

(5) *Treatment of Self-limited Diseases:* CARL E. BLACK, Jacksonville. Discussion: Frank Billings, Chicago, and George N. Kreider, Springfield, to open.

(6) *Erysipelas:* A. G. SERVOSS, Havana. Discussion: J. S. Miller, Peoria, and J. H. Prince, Springfield, to open.

(7) *Oxygen in Respiratory Affections:* N. S. DAVIS, JR., Chicago. Discussion: F. S. Johnson, Chicago, and P. H. Garretson, Peoria, to open.

(8) *Diphtheria:* E. FLETCHER INGALS, Chicago. Discussion: T. J. Pitner, Jacksonville, and W. O. Ensign, Rutland, to open.

(9) *The Whitehall Epidemic of Dysentery:* H. W. CHAPMAN, Whitehall. Discussion: C. Du Hadway, Jerseyville, and J. P. Matthews, Carlinville, to open.

(10) *Manifestations of La Grippe in Children:* C. W. EARLE, Chicago. Discussion: E. P. Cook, Mendota, and F. B. Haller, Vandalia, to open.

16. ANNOUNCEMENTS.—Afternoon Adjournment at 6 o'clock.

The unfinished part of Section ONE, if any, will be order 7th for Wednesday morning.

From 8 to 10 o'clock this (Tuesday) evening receptions will be held at private residences.

Note.—Members of each local society should select a representative for the Nominating Committee before Society is called to order Wednesday morning.

SECOND DAY.—WEDNESDAY MORNING.

1. Call to order at 9 o'clock by the President.
2. Announcements by Committee of Arrangements and others, communications, etc.

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3. Announcing of the names of the Committee on Nominations.
4. The Annual Report of the Treasurer, G. N. KREIDER, Springfield.
5. The Annual Report of the Committee on Publication, D. W. GRAHAM, Chicago, Chairman.
6. Miscellaneous Business.
7. At 10 o'clock, resume proceedings of Section One, if unfinished.
8. Address pertaining to Section Two, J. H. ETHERIDGE, Chicago. Subject: *Resume of Recent Pelvic and Abdominal Surgery.*

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9. Call to order of Section Two, W. J. CHENOWETH, Decatur, Chairman; J. HOMER COULTER, Chicago, Secretary.
10. PAPERS AND DISCUSSIONS:
    (1) *Observations on Movable Kidney with Hydro-Nephrosis:* D. W. GRAHAM, Chicago. Discussion opened by A. I. Maclay, Delavan.
    (2) *Surgical Treatment of Pulmonary Cavities:* JOHN A. ROBISON, Chicago. Discussion opened by B. M. Griffith, Springfield.
    (3) *Inguinal Hernia:* W. M. HARSHA, Chicago. Discussion opened by Charles O. Burke, Atlanta.
    (4) *Closure of Cranial Defects:* WELLER VAN HOOK, Chicago. Discussion opened by A. T. Barnes, Bloomington.
    (5) *Modern Treatment of Empyema:* D. A. K. STEELE, Chicago. Discussion opened by Charles W. Hall, Kewanee.
    (6) *Non-Surgical Treatment of Diseases of the Uterine Appendages:* O. B. WILL, Peoria. Discussion opened by Katharine Miller, Lincoln.
    (7) *Interesting Cases in Abdominal and Pelvic Surgery:* FRANKLIN H. MARTIN, Chicago. Discussion:
    (8) *Laceration of the Perineum:* S. M. WYLIE, Paxton. Discussion opened by G. W. Patton, Pana.
    (9) *Instrumental Obstetrics:* BENJAMIN H. HARRIS, Groveland. Discussion opened by H. C. Jones, Decatur.
    (10) *Care of the Perineum in Labor:* ELLEN H. HEISE, Canton. Discussion opened by J. H. Hollister, Chicago.
    (11) *The Management of Labor:* T. J. WHITTEN, Jacksonville. Discussion opened by A. F. Lee, Quincy.
    (12) *The Fashion of the Day in Obstetrics:* MARY C. KNIGHT, Aurora. Discussion:

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(13) *Partial Dislocation of the Lens:* WILLIAM H. WILDER, Chicago. Discussion opened by A. C. Corr, Carlinville.

(14) *Surgical Treatment of Strabismus:* A. E. PRINCE, Springfield. Discussion:

(15) *Syphilitic Disease of the Optic Nerve:* JOHN E. HARPER, Chicago. Discussion:

(16) *Immature Cataract Ripened by Direct Irritation:* BOERNE BETTMAN, Chicago. Discussion opened by A. E. Prince, Jacksonville.

(17) *Diagnosis and Treatment of Eye Diseases of Infancy and Childhood:* A. L. ADAMS, Jacksonville. Discussion: E. J. Brown, Decatur, and J. W. Hairgrove, Jacksonville, to open.

(18) *Bone Transplantation for Correction of Nasal Deformities:* WILLIAM BARNES, Decatur. Discussion opened by J. Homer Coulter, Chicago.

(19) *Resume of Some Subjects of the Past Year:* WILLIAM J. CHENOWETH, Decatur. Discussion:

11. At 12 o'clock call to order of General Session. Announcements. Noon adjournment.

SECOND DAY.—AFTERNOON.

12. Call to order at 2 o'clock by the President. Announcements, etc.

13. Call to order of Section Two and continuation of papers and discussions under order 10.

14. At 5:45 call to order of General Session. Announcements, reports of Special Committees, miscellaneous business.

15. Afternoon adjournment at 6 o'clock.

SECOND DAY.—EVENING. OPEN TO THE PUBLIC.

16. Call to order at 8 o'clock in the First M. E. Church.

17. The President's Annual Address, CHARLES C. HUNT, Dixon.

18. The Necessity of Greater Provision for the Insane: The REV. F. H. WINES, Springfield, Secretary Illinois State Board of Charities. Discussion opened by F. B. Haller, Vandalia, and R. Dewey, Kankakee.

THIRD DAY.—MORNING.

1. Call to order at 9 o'clock.

2. Announcements, report of Committee on Nominations, reports of Special Committees and Standing Committees.

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3. At 10 o'clock continuation of papers and discussions of Section Two, if any remain under order 10 of second day.

4. Address pertaining to Section THREE, ELBERT WING, Chicago. Subject: *Bacteria as an Etiological Factor in Disease.*

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5. Call to order of Section THREE, J. M. G. CARTER, Waukegan, Chairman; G. N. KREIDER, Springfield, Secretary.

6. PAPERS AND DISCUSSIONS:

   (1) *Criminal Responsibility in the Early Stages of General Paralysis:* F. P. NORBURY, Jacksonville.

   (2) *Criminal Responsibility as Related to Insanity:* W. B. PATTERSON, Chester. Discussion: D. R. Brower, Chicago, and H. N. Moyer, Chicago.

   (3) *Insanity in General Practice:* R. DEWEY, Kankakee. Discussion: F. P. Norbury, Jacksonville; E. P. Cook, Mendota; F. B. Haller, Vandalia; E. B. Elrod.

   (4) *The Errors of Life that Lead to Insanity:* A. H. MCFARLAND, Jacksonville. Discussion: Josephine Milligan, Jacksonville; R. Dewey, Kankakee.

   (5) (Transferred to evening of Second Day.)

   (6) *How Should the Feeble-Minded be Treated?* W. B. FISH, Lincoln. Discussion: George N. Kreider, Springfield; T. M. Cullimore, Jacksonville.

   (7) *A Study of Milk and its Uses.* J. M. G. CARTER, Waukegan. Discussion: F. S. Johnson, Chicago; A. C. Haven, Lake Forrest.

   (8) *Disposal of Chicago Sewage:* ROMAINE J. CURTIS, Joliet. Discussion: F. W. Reilly, Chicago; O. B. Will, Peoria.

   (9) *Some Common Errors in the Physical Training, Education and Dress of Girls:* J. SCHNECK, Mount Carmel. Discussion: Charles Warrington Earle, Chicago; J. H. Etheridge, Chicago.

   (10) Papers promised from J. H. RAUCH, F. W. REILLY, J. J. LARKIN and H. M. BANNISTER. No subjects given.

7. At 12 o'clock call to order of General Session. Announcements. Noon Adjournment.

THIRD DAY.—AFTERNOON.

8. At 2 o'clock call to order by the President. Announcements, etc.

9. Continuation of papers and discussions of Section THREE, under order 6.

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10. Reports of Committees.
11. Unfinished and miscellaneous business.
12. Installation of President-elect.
13. Final adjournment.

Dr. E. F. Ingals then moved that the report of the Executive Committee be adopted, the motion was seconded by Dr. I. N. Danforth and carried.

The President: The next thing in order is "miscellaneous business, communications by the Permanent Secretary," etc.

Dr. George N. Kreider, Springfield: I take the opportunity at this early stage of the meeting to present the regrets of the Secretary of the State Board of Health, Dr. Reilly, who is unable to be present, and who requested me to distribute to the members of the Society copies of the last report of the State Board of Health, which I have placed on the table. The report gives a list of the physicians in the State to date as far as can be ascertained.

The Secretary read a letter from Dr. E. Ingals, of Chicago, who regretted that ill health would prevent his attendance at this meeting. He also stated that Dr. W. E. Quine, of Chicago, who was to have delivered the address pertaining to Section One, was also absent. Furthermore, he had the report of the Committee on Necrology, sent by Dr. Ingals, chairman, which he would turn over to Dr. Rauch, a member of the Committee who is present.

Secretary Graham also stated that he had been handed a letter by the President from Dr. Cullimore, Chairman of Section One, stating that he will be unable to be present during the meeting. The Secretary of that Section will also be absent.

The President: Dr. E. F. Ingals and Dr. I. N. Danforth, of Chicago, have kindly consented to act as Chairman and Secretary of Section One.

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The next thing on the program was the report of the Committee on Necrology.

Secretary Graham said that Dr. E. Ingals, the Chairman, had asked him to place the report in the hands of Dr. Rauch, who seems to have left the room just now.

The President: In the absence of Dr. Rauch, I will call upon Dr. Graham to read the report.

The Secretary then presented the report of the Committee on Necrology, which consisted of obituary notices of Dr. F. L. Matthews, of Springfield, Dr. F. M. Wilder, of Chicago, and Dr. C. H. Holliday, of Carlinville.

On motion the report was referred to the Committee on Publication.

The report of the Committee on Biography was called for, and the Chairman, Dr. John H. Hollister, of Chicago, being absent, it was passed.

The President then called for the address pertaining to Section One.

The Secretary said he had written Dr. Quine recently, but had received no response.

On motion of Dr. Haller, Dr. J. H. McIntyre, of St. Louis, was made an invited guest of the Society for this meeting.

Section One.—First Session.

Chairman (*pro tem.*), Dr. E. F. Ingals, Chicago; Secretary (*pro tem.*), Dr. I. N. Danforth, Chicago.

The first paper read was by Dr. N. S. Davis, Chicago, entitled "Therapeutic Illusions and Delusions, or False Inferences in Medical Practice," which was discussed by Drs. Brower, Dewey, N. S. Davis Jr., Welch, Carter, Heise and Wright, the discussion being closed by the author.

Referred to the Publication Committee.

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The noon hour having arrived, on motion the Society adjourned till 2 P. M.

FIRST DAY—TUESDAY AFTERNOON.

The Society reassembled at 2 o'clock and was called to order by the President.

Dr. Haller, Chairman of the Committee of Arrangements, reminded the members of the Society of the informal reception to be held at his residence this evening.

Under the head of "Miscellaneous Business," Dr. J. Homer Coulter, of Chicago, said there were a number of gentlemen present who wished to become members of the Society, but who had not come with their applications signed by the President and Secretary of their local organizations, as required by the new constitution. He wanted to know what course was to be pursued in such cases.

On motion the Society voted that when an applicant shall have paid his dues to the Treasurer he shall be counted a member for all purposes of this meeting, and that he could have a reasonable time to complete his membership by furnishing the required certificate.

Section One.—Second Session.

Dr. Katharine Miller, of Lincoln, read a paper entitled "Medical Uses of Ergot."

Discussed by Drs. Danforth, Brower, Caldwell, Heise, Will, and discussion closed by the author of the paper.

Dr. W. J. Eddy, of Shelbyville, read a paper on "Chronic Inflammations of the Brain."

Discussed by Drs. Norbury, Dewey, and discussion closed by the essayist.

Dr. D. R. Brower, of Chicago, read a paper entitled "Infantile Paralysis."

The discussion was opened by Dr. Eddy, and continued

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by Drs. Coulter, Matthews, and discussion closed by Dr. Brower.

Dr. Carl E. Black, of Jacksonville, followed with a paper entitled "Treatment of Self-Limited Diseases," which was discussed by Drs. Kreider and White.

The paper by Dr. A. G. Servoss, of Havana, on "Erysipelas," was called for, but the author was absent.

Secretary Graham stated that the paper had been handed to him and that he would turn it over to the officers of the Section.

Dr. E. F. Ingals: I will say that no paper can be published in the transactions unless it is read in part or in full.

The Secretary of the Section was instructed to prepare an abstract of the paper and present it later.

Dr. N. S. Davis Jr., Chicago, read a paper entitled "Oxygen in Respiratory Affections," which was discussed by Drs. Pitner and Brower.

The Secretary of the Section, Dr. I. N. Danforth, then read the paper of Dr. A. G. Servoss, of Havana, in abstract.

Dr. Will, at this juncture, was called to the chair, and Dr. E. F. Ingals, of Chicago (Temporary Chairman of the Section), read his paper on "Diphtheria."

The discussion was opened by Dr. Pitner, and continued by Drs. Matthews, Sibley, Caldwell, Wilder, and closed by Dr. Ingals.

Dr. Hunt, the President, took the chair.

Secretary Graham made an announcement, at the request of the President, that the Committee on Nominations would be appointed to-morrow (Wednesday) morning, the names to be handed in to the Permanent Secretary before the Society was called to order.

On motion of Dr. Davis, the Society adjourned till Wednesday, 9 A. M.

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SECOND DAY.—MORNING.

The Society was called to order by the President at 9 o'clock.

The following were announced as the Nominating Committee:

Adams Co. Medical Society.....A. F. Rooney.
Æsculapian Medical Society of the Wabash Valley.....J. A. Baughman.
Aurora Medical Society.....Mary C. Knight.
Brainard District Medical Society.....Katharine Miller.
Capital District Medical Society.....W. J. Chenoweth.
Centennial Medical Society.....W. L. Goodell.
Central District Medical Society.....J. H. Gordon.
Champaign Co. Medical Society.....C. B. Johnson.
Chicago Medical Society.....D. R. Brower.
Chicago Pathological Society.....I. N. Danforth.
Chicago Medico-Legal Society.....N. S. Davis Jr.
Chicago Gynecological Society.....J. H. Etheridge.
Clinton Co. Medical Society.....M. Brœning.
DeWitt Co. Medical Society.....John Wright.
Embarrass Valley Medical Society.....J. H. McLain.
Kankakee Co. Medical Society.....Richard Dewey.
Lake Co. Medical Society.....J. M. G. Carter.
La Salle Co. Medical Society.....E. P. Cook.
Medical and Surgical Society of Western Illinois.....H. W. Chapman.
McLean Co. Medical Society.....J. L. White.
Military Tract Medical Society.....Ellen H. Heise.
Morgan Co. Medical Society.....T. J. Pitner.
North Central Medical Society.....J. F. Dicus.
Peoria City Medical Society.....O. B. Will.
Society of Macoupin Co. for Medical Improvement.....A. C. Corr.
Southern Illinois Medical Association...Walter Watson.
Wabash Co. Medical Society.....G. P. Manley.
Wabash Valley Medical Society.....C. Barlow.
Wayne Co. Medical Society.....F. B. Bean.

Dr. E. F. Ingals, First Vice-President, took the chair, and President Hunt delivered a portion of his Annual

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Address, which he thought would not be of interest to the public audience, before which the main part of the address was to be given in the evening; hence its delivery at this time.

Dr. Brower moved that a special committee of three be appointed by the Chair to consider the recommendations and suggestions embodied in the President's Address. Seconded and carried.

The Chair appointed on this committee Drs. J. L. White, B. B. Griffith and J. H. Etheridge.

The next business in order was the report of the Treasurer, Dr. Kreider, which was read as follows:

Annual Report of George N. Kreider, Treasurer Illinois State Medical Society, for year ending May 16, 1892:

RECEIPTS.

Check from T. M. McIlvaine, former treasurer	$	614 33
From members for dues		1216 50
From Secretary for four volumes sold		8 00
Total receipts	$	1838 83

DISBURSEMENTS.

1891.			
July 1.	Jameson & Morse Co., printing	$	11 34
Sept. 1.	Jameson & Morse Co., printing		4 25
Aug. 4.	Treasurer's allowance		50 00
Nov. 15.	Chairman Section on Practice, printing		4 50
Sept. 3.	W. H. Tyler & Co., three portraits for the Transactions		31 00
Sept. 11.	Jameson & Morse Co., printing Transactions		525 55
Oct. 1.	The Secretary for book case		20 00
Sept. 18.	William Whitford, stenographer		77 75
Sept. 2.	Century Publishing Co., printing three portraits		20 70
Sept. 5.	Metcalf Stationery Co., printing one portrait		8 00
Aug. 10.	Phillips Bros., treasurers' printing		5 75
July 29.	Jameson & Morse Co., printing		9 75
Aug. 7.	Permanent Secretary, allowance		100 00
Aug. 7.	" " Postage and express		50 00
Aug. 21.	Treasurer's postage		10 20
Oct. 16.	Miss Price, stenographer for treasurer		3 00
June	Expenses of (1891, Springfield) meeting		32 05
1892.			
May	Certified check Illinois National Bank		874 99
		$	1838 83

Audited and found correct,

E. FLETCHER INGALS.
O. B. WILL.

May 18, 1892.

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After considerable discussion on the subject of delinquent members, it was voted that all those delinquent for three or more years should be dropped from the roll after they have been duly notified of their delinquency and its penalty.

The motion of Dr. E. P. Cook being seconded, to adopt the treasurer's report, was put and carried.

The report of the committee on publication being in order, was then received.

ANNUAL REPORT OF THE COMMITTEE ON PUBLICATION.

The Committee soon after the last meeting secured competitive bids from four responsible firms for printing the transactions for 1891.

The Jameson & Morse Company was the successful firm, and the contract awarded for three hundred and seventy-five (375) copies to be delivered within ninety days. The work was completed on time, the 375 copies of four hundred and eighteen (418) pages each, costing five hundred and twenty-five dollars and fifty-five cents ($525.55).

With the report of the Committee on Necrology the Committee reproduced eight (8) portraits of deceased members for the transactions at a total cost of fifty-nine dollars and seventy cents ($59.70).

The Committee was fortunate in borrowing from friends steel plates of four of the deceased members and a copper plate of another, these five portraits costing only the price of printing and expressage of the plates. In this connection the Society is under obligations to the Century Publishing and Engraving Company of Chicago for unusual courtesies extended to the Committee.

The other three portraits were a partial failure by comparison, first on account of poor photographs furnished us from which to make copies, and also because of poor workmanship, which the Committee found would require too much time and expense to remedy.

The books were distributed to members who had paid their dues, to a few medical journals, medical libraries, to

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the state institutions and to a few medical societies in exchange. Twenty copies remain, a smaller number than for many years, on account of more members having paid dues than usual. It is worthy of notice here also that more delinquents of the last two or three years have paid up to date than is usual.

Another reason for the supply of the last year being so nearly exhausted was that some sixty volumes were destroyed by fire before they had been delivered to the Committee by the publisher. About sixty other volumes were injured but were in condition to be used after rebinding.

The publishers had printed twenty-five copies of the forms above the number ordered. These happened to be in the bindery at the time of the fire and were not injured. The J. & M. Co. is entitled to the thanks of the Society for binding these extra twenty-five volumes and rebinding the sixty damaged volumes, without charge as they were not legally liable for the loss by fire.

Two years ago after the Society had adopted some general propositions making important changes in the constitution it was found that there were conflicting provisions, ambiguities and much crude matter remaining. Your Secretary was asked to make such verbal changes as were necessary. After some effort it was found impossible to do justice to the subject with instructions of so limited a scope.

In this state of affairs the Committee was instructed at the last meeting to make such changes in the Constitution and By-laws of the Society as would harmonize its provisions and render the propositions adopted two years ago available for conducting the work of the Society and to have the complete Constitution and By-laws printed and distributed before this meeting. The Committee has done its work according to instructions as it understood them, and the results are in your hands.

Respectfully submitted,

D. W. GRAHAM,
G. N. KREIDER,
N. S. DAVIS JR.

Dr. W. L. Goodell of Effingham moved the adoption of the report. Seconded and carried.

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Section One.—Third Session.

Dr. W. H. Chapman, of Whitehall, read a paper on "The Whitehall Epidemic of Dysentery."

The discussion was opened by Dr. J. P. Matthews and continued by Drs. J. J. M. Angear, W. J. Chenoweth, W. L. Goodell, E. P. Cook, M. Rooney, and closed by the essayist.

Dr. C. W. Earle's paper was called for, but the author was absent. Dr. Graham then read an abstract of it.

On motion, all of the papers read in Section One were referred to the Committee on Publication.

The address pertaining to Section Two was then delivered by Dr. J. H. Etheridge, of Chicago. Subject, "Resumé of Recent Pelvic and Abdominal Surgery."

Section Two.—First Session.

Chairman, Dr. W. J. Chenoweth, Decatur; Secretary, Dr. J. Homer Coulter, Chicago.

Section called to order by the Chairman.

Dr. D. W. Graham, of Chicago, read a paper entitled "Observations on Movable Kidney with Hydro-nephrosis."

On motion, the discussion on this paper was made the first order of business for the afternoon session.

On motion, the Society adjourned till 2 P. M.

SECOND DAY—AFTERNOON.

The Society was called to order at 2 o'clock by the President.

The Secretary read a telegram from the Pennsylvania State Medical Association, in session at Harrisburg, extending greetings, and, on motion, was directed to answer the same.

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Section Two.—Second Session.

Dr. Graham's paper was then discussed by Dr. Danforth, and discussion closed by the author.

The paper of Dr. John A. Robison, of Chicago, was called for, and passed, the author not being present.

Dr. Weller Van Hook's paper was also called for and passed, the author not being present.

Dr. D. A. K. Steele, of Chicago, then read a paper on "Modern Treatment of Empyema." The discussion was opened by Dr. C. W. Hall, and continued by Drs. Hoadley, Ingals, Carter, Graham, Corr, White, Coulter, Chapman, Caldwell, and closed by the author.

Dr. O. B. Will, of Peoria, read a paper entitled "Conservatism *versus* Radicalism in the Treatment of Some of the Pelvic Diseases of Women."

The discussion was opened by Dr. Katharine Miller, continued by Dr. Etheridge, and closed by Dr. Will.

The paper of Dr. Franklin H. Martin, of Chicago, and that by Dr. S. M. Wylie, of Paxton, were called for and passed, the authors not being present.

A paper by Dr. Benjamin H. Harris, of Groveland, entitled "Instrumental Obstetrics," was read by the Secretary of the Section, Dr. Coulter.

Dr. Ellen H. Heise, of Canton, read a paper entitled "Care of the Perineum in Labor."

Dr. T. J. Whitten, of Jacksonville, read a paper on "The Management of Labor."

Dr. Mary C. Knight, of Aurora, read a paper entitled "The Fashion of the Day in Obstetrics."

The four papers were discussed jointly by Drs. Jones, Abbe Rooney and K. Miller.

Dr. William H. Wilder, of Chicago, read a paper on "Partial Dislocation of the Lens," which was discussed by Dr. A. C. Corr.

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On motion, the President was directed to begin the Thursday morning session at eight o'clock, instead of nine. The Society adjourned till 8 P. M.

SECOND DAY—EVENING.

The Society met at the M. E. Church at 8 P. M., with the First Vice-President, Dr. E. F. Ingals, in the chair. After some vocal music by a duet of ladies, President Hunt delivered his Annual Address.

President Hunt was followed by the Rev. F. H. Wines, of Springfield, Secretary Illinois State Board of Charities, who delivered an address on "The Necessity of Greater Provision for the Insane."

The latter subject was discussed by Drs. R. Dewey and F. B. Haller, after which the Society adjourned.

THIRD DAY—MORNING.

The Society was called to order by the President at eight o'clock.

The report of the Committee on Nominations was read by the Secretary of the Committee, Dr. D. R. Brower, as follows:

REPORT OF THE NOMINATING COMMITTEE.

Your Committee recommend the following: President, E. Fletcher Ingals, Chicago; First Vice-president, Otho B. Will, Peoria; Second Vice-president, Daniel R. Brower, Chicago; Permanent Secretary, David W. Graham, Chicago; Assistant Secretary, J. Homer Coulter, Chicago; Treasurer, George N. Kreider, Springfield.

Members of the Judicial Council—Charles C. Hunt, Dixon; Richard Dewey, Kankakee; Isaac N. Danforth, Chicago; John P. Matthews, Carlinville; Francis B. Haller, Vandalia; Edgar P. Cook, Mendota.

Section One—Chairman, Nathan S. Davis Jr., Chicago; Secretary, J. H. Miller, Pana. Address, Isaac N. Danforth, Chicago.

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Section Two—Chairman, M. Rooney, Quincy; Secretary, E. J. Brown, Decatur. Address, Nicholas Senn, Chicago.

Section Three—Chairman, Richard Dewey, Kankakee; Secretary, B. B. Griffith, Springfield. Address, Daniel R. Brower, Chicago.

Committees: Arrangements—E. Ingals, H. N. Moyer, B. Bettman, M. R. Brown, J. H. Coulter, all of Chicago.

On Legislation—J. M. G. Carter, Waukegan; F. B. Haller, Vandalia; B. M. Griffith, Springfield.

Necrology—J. H. Hollister, Chicago; Robert Boal, Peoria; J. H. Rauch, Springfield.

On Medical Societies—W. O. Ensign, Rutland; C. W. Hall, Kewanee; Walter Watson, Mount Vernon.

Biography—J. L. White, Bloomington.

Place of meeting, Chicago.

It is also recommended that the Committee on Legislation be authorized to appoint from the Society sub-committees to coöperate with them in securing such special legistion as may from time to time be undertaken.

Dr. Carter moved that the report be adopted. Seconded and carried.

The Secretary read the following at the request of Dr. F. C. Schaefer, Chairman of the Committee on Medical Legislation:

WHEREAS, A cabinet officer of public health would be of incalculable value to the health interests of the nation in many ways, be it

Resolved, That the Illinois State Medical Society, assembled in regular session this 20th day of May in Vandalia, makes a special request of the Congress of the United States to pass a bill creating a cabinet officer of public health.

The resolution was adopted.

Dr. E. F. Ingals moved that the Secretary transmit copies of the same to the Congressmen. Seconded.

The Secretary: I think it would be better for this resolution to be placed in the hands of the committee ap-

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pointed to consider the recommendations in the President's Address.

Dr. Coulter then moved, as an amendment, that the matter under consideration be referred to the Committee on President's Address. Seconded and carried.

The Secretary read letters of regret from Drs. Booth, of Belleville; Burke, of Atlanta; and Earle, of Chicago.

Section Two.—Third Session.

Dr. A. L. Adams, of Jacksonville, read a paper on "Diagnosis and Treatment of Eye Diseases of Infancy and Childhood."

The discussion was opened by Dr. J. W. Hairgrove, continued by Dr. Coulter, and closed by the essayist.

Dr. William J. Chenoweth, of Decatur, read a paper entitled "Resumé of Some Subjects of the Past Year."

Dr. Coulter, Secretary of the Section, read an abstract of a paper by Dr. W. M. Harsha, of Chicago, on "Inguinal Hernia," in the absence of the author.

All of the papers in Section Two being disposed of, Dr. Elbert Wing, of Chicago, proceeded to deliver the address pertaining to Section Three. Subject, "Bacteria as an Etiological Factor in Disease."

At the conclusion of Dr. Wing's address the work of this Section was begun.

Section Three.—First Session.

Chairman, J. M. G. Carter, Waukegan; Secretary, George N. Kreider, Springfield.

Secretary Kreider read a paper by Dr. Frank P. Norbury, of Jacksonville, on "Criminal Responsibility in the Early Stages of General Paralysis," in the absence of the author.

The paper was discussed by Dr. Brower.

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A paper by Dr. W. B. Patterson, of Chester, was called for and passed, the author being detained by high water.

Dr. Richard Dewey, of Kankakee, read a paper on "Insanity in General Practice."

Dr. Anne H. McFarland, of Jacksonville, followed with a paper, "The Errors of Life that Lead to Insanity."

The discussion on these papers was opened by Dr. F. B. Haller, continued by Drs. Josephine Milligan, Elbert Wing, Ellen H. Heise, Kreider, Carter, and closed by Dr. Dewey.

Dr. W. B. Fish, of Lincoln, read a paper entitled "How Should the Feeble-Minded be Treated?"

The discussion was opened by Dr. Kreider, continued by Drs. M. Rooney, K. Miller, Heise, Wing, Haller, and closed by the author.

On motion the Society adjourned till 2 P. M.

THIRD DAY—AFTERNOON.

Section Three called to order by the Chairman at 2 o'clock.

Secretary Kreider read a paper by Dr. B. M. Griffith, of Springfield, on "State Medicine," in the absence of the author.

Dr. J. M. G. Carter, of Waukegan, read a paper entitled "A Study of Milk and Its Uses."

Dr. J. Schneck, of Mt. Carmel, followed with a paper on "Some Common Errors in the Physical Training, Education and Dress of Girls."

The two papers were discussed jointly by Drs. Hoadley, Heise, Kreider, K. Miller, Ingals, Dewey, Haller, J. H. Miller, and discussion closed by the authors of the papers.

Dr. C. R. Parke, of Bloomington, made a supplementary report of a case of "Necrosis of the Parietal Bones,"

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which he had reported to the Society last year, and exhibited the patient.

The work of the Section being finished, Dr. Hunt resumed the chair.

Dr. B. B. Griffith, of Springfield, in behalf of Dr. F. W. Reilly, Secretary of the State Board of Health, read the following circular, and asked for Dr. Reilly that the members of this Society coöperate with the Board in their efforts to prosecute violations of the Practice Act:

OFFICE OF THE SECRETARY, SPRINGFIELD, May 11, 1892.

CONCERNING VIOLATIONS OF THE MEDICAL PRACTICE ACT.

At its regular quarterly meeting, April 28, 1892, the State Board of Health of the State of Illinois adopted the following resolutions, to-wit:

Resolved, That the State Board of Health of Illinois, in order to secure an efficient and impartial enforcement of the Medical Practice Act of the State, hereby empowers the President of the Board to authorize and contract with any reputable attorney to prosecute any given suit for violation of the Act on recommendation of the Secretary, after that officer shall have examined the *prima facie* facts of the case and reported the same to the President.

Resolved, That the authority given to an attorney under these resolutions shall be signed by the President and attested by the Secretary; and such authority shall be the sufficient warrant for the prosecution of the suit or suits specified therein by the attorney receiving the same.

Based upon the foregoing, the following methods of practice in the Secretary's office have been adopted in order to secure uniformity of proceeding and a proper record of the action of the Board and its officers in such cases.

Any one cognizant of a violation of the Medical Practice Act should furnish information of the same to the Secretary of the Board, such information to embrace: (a.) Full name and address of the alleged violator. (b.) Statement of the act or acts of the alleged violation and date or dates thereof. (c.) Name and address of any reputable attorney selected to undertake the prosecution.

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Upon receipt of the information above specified, a contract will be forwarded to the attorney for his execution, and upon its return the authority of the Board will be issued him to prosecute the suit in the name of The People of the State of Illinois, for the use of the State Board of Health.

The attorney is required to contract and agree to prosecute the specified suit or suits; to keep the Board fully advised of all proceedings in connection therewith; not to dismiss, compromise or settle without express permission; and to pay over to the Board twenty (20) per centum of the fine or fines recovered, retaining the remaining eighty (80) per centum as his own compensation.

It is believed that the percentage of the fines paid to the Board will cover all expense incurred in the enforcement of the Medical Practice Act, for clerical services, books of record, printing, stationery, etc., and for which there is no appropriation from the State treasury.

A pamphlet entitled "Medical Practice in Illinois," has been prepared by the Secretary, containing a copy of the Act of July, 1887, the mode of procedure under the same and instructions as to the form of proceeding under which to prosecute violations of the Act. This last section of the pamphlet contains all that is necessary to enable an attorney to bring suit and prosecute without delay or special study of the law. Copies of this pamphlet are furnished to those interested.

F. W. REILLY, M. D.,
Secretary.

Dr. E. F. Ingals moved that Dr. Griffith express to the Secretary of the State Board of Health the Society's concurrence in the resolution and the plan, and its desire to coöperate with the Board in the matter. Seconded and carried.

REPORT ON THE PRESIDENT'S ADDRESS.

The Committee appointed to consider the suggestions and recommendations of the President's address would offer the following resolutions for adoption:

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First. That the new Committee on Medical Legislation is hereby instructed to use every resource within its power to secure during the forthcoming session of the Legislature such modifications of the law for the committment of the insane of this state as is recommended by the President in the address, and as will correspond with the views of the Society heretofore so emphatically expressed.

Second. That the suggestions relating to the Columbian Exposition be referred to the Executive Committee, with power to take such action as may be appropriate, at any time before the next annual meeting.

Third. That we hereby fully endorse the plan and the objects of the Pan-American Medical Congress, and ask individual members to give such aid and encouragement to the organization as opportunity may afford.

Fourth. That the sentiments of this Society are unanimously in favor of a Cabinet Officer and a Department of Public Health, and that as a Society, and as individuals, we heartily endorse the bills now pending in Congress in relation thereto; also that the Secretary be instructed to transmit a copy of this endorsement to each of the Congressmen from Illinois, and that all members be requested to exert their individual influence with Congressmen in aid of the proposed legislation.

Respectfully submitted,

J. L. WHITE.
J. H. ETHERIDGE.
B. B. GRIFFITH.

The report was adopted.

Dr. Ensign then offered the following:

Resolved, That the Executive Committee in preparing the program of the proceedings of this Society for 1893 be instructed to place Section Three first thereon, and that volunteer remarks in discussions be limited to five minutes, and that such be announced on the printed program when issued by the Secretary.

The resolution was adopted by a two-thirds vote.

Dr. T. J. Pitner, of Jacksonville, offered the following

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resolution of thanks, which was adopted unanimously by a rising vote:

Resolved, That the thanks of the Society be extended to the Chairman and members of the Committee of Arrangements for their untiring and successful efforts for our accommodation.

Also, The thanks of the Society are hereby tendered the citizens of Vandalia for their cordial welcome to this Society and especially to those who have so kindly opened their homes for the entertainment of members.

On motion, the thanks of the Society were extended to the officers of the sections, to the President, Permanent Secretary and Treasurer, for the able and efficient manner in which they had discharged their duties.

President Hunt then appointed Drs. Haller and Carter to escort the President-elect to the chair.

President Hunt in introducing his successor, said:

Gentlemen: I desire to extend to you my sincere thanks for your kind indulgence and courtesy, and particularly to our Permanent Secretary who has worked hard in getting out the program that has been placed before you. You will have noticed that there has been almost no variation in the program from the beginning to the end. It has been gone through in regular order. Of course some of the papers have not been read, because the authors were absent, but there has been no confliction in any manner.

I now have the pleasure of presenting to you your newly-elected President, Dr. E. Fletcher Ingals, of Chicago.

Dr. Ingals said:

Fellow members of the Illinois State Medical Society: I wish to express to you my great appreciation for the honor you have conferred upon me.

I highly appreciate the excellence of the work of this meeting which is about to close, and if we shall succeed in accomplishing as much during the next year as has been

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done under the leadership of my immediate predecessor I shall be proud indeed. I shall be ambitious to draw into the Society during the year more of the physicians of the State who are eligible to membership, and I ask the coöperation of all the members in any effort in this and other directions that may be made by any of the officers or committees of the Society.

There being no further business, the Society, on motion, adjourned to meet in Chicago, the third Tuesday in May, 1893.

D. W. GRAHAM,
Permanent Secretary.

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Francis L. Matthews.

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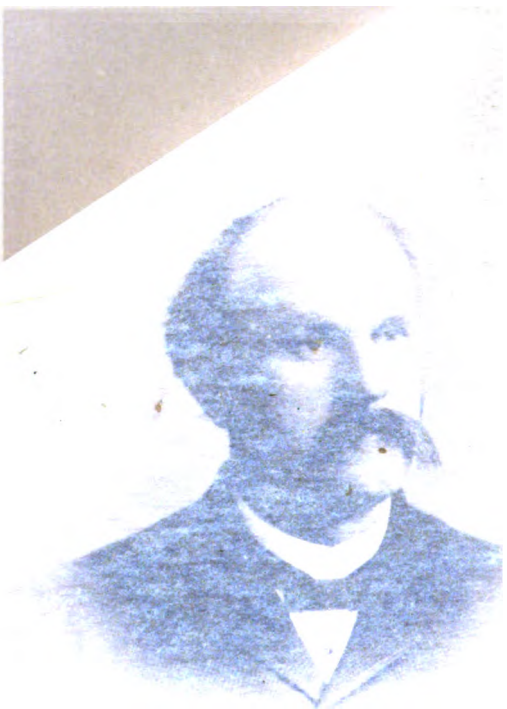
NECROLOGY

COMPILED BY

EPHRAIM LONGSHORE,
ROBERT BOAL, JOHN H. RAUCH

FREDERICK LAWSON MATTHEWS, M. D.

FREDERICK L. MATTHEWS was a native of England, but came to the United States with his parents in 1841. The family settled on a farm in Pennsylvania, where the son grew up. He received a rudimentary education, and later entered the Allegheny College at Meadville. At the outbreak of the war of the Rebellion, though only seventeen years old, he enlisted in the army and was made orderly sergeant of his company. At the battle of Seven Pines, after having seen more than a year of active service, and while suffering with typhoid fever, he was captured and became an inmate of the Libby Prison. He endured great suffering here for three months, when he was paroled and sent, with many others, to the hospitals of Philadelphia. He was known for his cheerfulness, which, in later years, [illegible]. At the close of the war he resumed [illegible] and decided to adopt medicine as a profession, and graduated [illegible] from the City Medical College at Pittsburgh. His brother, Dr. John P. Matthews, had resigned his position as surgeon in the army and established a practice at Carrollton, Ill. Under his private instruction Frederick commenced the study of medicine. He obtained the degree of Doctor of Medicine at Ann Arbor, in 1867, and two years later, the [illegible] from Rush Medical College. He then established himself with his brother at Carrollton and practiced there [illegible]. He was appointed by Governor Beveridge commissioner for Illinois to the Centennial Exposition, and was very efficient in promoting the success of the Philadelphia Exposition. At its close he removed to Springfield, Ill., and formed a partnership with Dr. Alfred B. Buck, of that place, where he



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NECROLOGY.

Committee:

EPHRAIM INGALS,
ROBERT BOAL, JOHN H. RAUCH.

FREDERICK LAWSON MATTHEWS, M. D.

FREDERICK L. MATTHEWS was a native of England, but came to the United States with his parents in 1844. The family settled on a farm in Pennsylvania, where the son grew up. He received an academic education, and later entered the Allegheny College at Meadville. At the outbreak of the war of the Rebellion, though not twenty years old, he enlisted in the army and was made orderly sergeant of his company. At the battle of Seven Pines, after having seen more than a year of active service, and while sick with typhoid fever, he was captured and became an inmate of Libby Prison. He endured great suffering here for three months, when he was paroled and sent, with many other starving comrades, to the hospitals of Philadelphia. Here he was shown great kindness, which, in later years, he was fortunately able to repay. At the close of the war he resumed his interrupted studies, though in a different line, and graduated from the Iron City Commercial College at Pittsburgh. His brother, Dr. John P. Matthews, had resigned his position as surgeon in the army and was settled in practice at Carlinville, Ill. Under his private instruction Frederick commenced the study of medicine. He obtained the degree of Doctor of Medicine from Ann Arbor, in 1867, and two years later, the *ad eundem* degree from Rush Medical College. He then commenced business with his brother at Carlinville, and practiced there ten years. He was appointed a Centennial Commissioner for Illinois by Gov. Palmer, and in this position was efficient in promoting the success of the Philadelphia Exposition. At its close he removed to Springfield, Ill., and formed a partnership with Dr. H. B. Buck, of that place, where

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he continued in practice until his death. Here he acquired a large practice. He was surgeon for a number of railroads, and was instrumental in the establishment of a railroad hospital at Springfield. Gov. Oglesby appointed him surgeon-general of the Illinois National Guards, and Gov. Fifer renewed the appointment. His labors in this position were highly appreciated. As a citizen he showed his sense of duty by accepting a place in the Council, although at the expense of much time and labor, and he was always the first to suggest and carry out any public improvement.

In the church of his choice, the Protestant Episcopal, he was an earnest worker, a member of the vestry, and ever ready to discharge the important duties of such an office. In his private character he was generous, noble, of frank impulses, slow to suspect evil, and charitable in judgment of his fellow creatures.

In January, 1882, he was married to Annie V., the daughter of Hon. J. C. Conkling, and ten years of unbroken happiness have fallen to the husband and wife that no after-sorrows can destroy. Their's was an ideal home. A devoted husband, a tender brother, a sympathizing friend, a genial companion, he was a genuine manly man. The tears of the hundreds who crowded about his grave were a tribute to his worth. Death called him suddenly from the midst of his labors, and he died, as he had lived, always ready to respond to the call of duty, December 24, 1891.

J. P. M.

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Charles H. Holliday.

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CHARLES H. HOLLIDAY, M. D.

CHARLES H. HOLLIDAY was born in Scottsville, Allen county, Ky., June 12, 1822. His family moved to Florisant, Mo., when he was young. He graduated at the University of St. Charles, Mo., in 1844, and received his master's degree three years later. His medical studies were in the Missouri University at St. Louis, graduating from its medical department in 1849. The Doctor entered upon the duties of his profession at Waverly, Morgan county, Ill., removing to Virden, Ill., some years later. He was married in 1850 to Miss Harriet Calhoun. Mrs. Holliday died in 1864.

Dr. Holliday removed to Carlinville in 1862. He then restricted his general practice and opened a drug store in connection with his office. He was married to Mrs. Mattie J. McKay, of Kentucky, in 1866.

Dr. Holliday's extreme modesty concealed many of his sterling traits of character from the general public, but they were known and appreciated by his intimate friends. Nature had endowed him with a fine physical structure, a kindly, handsome face, and a gentle voice. These, added to his culture and medical training, made his presence soothing and gave confidence in his counsel. His intercourse with his professional brethren was marked by extreme courtesy and honor. He found time to attend to labors of love for the church of his choice, being for years the treasurer of the Presbyterian church at Carlinville. He was interested in the advancement of medical education, continuing an active member of "The Society of Macoupin County for Medical Improvement," and its Secretary at the time of his death. He was also a member of the Illinois State Medical Society. He kept extensive notes of medical cases. This custom, together with his long practice, deliberate judgment and excellent memory, made his service to his patrons and counsel and debate with professional associates of great value. The Doctor decided to close his drug business and again enter active general practice, at the age of

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sixty-nine years. It was while thus engaged that he was stricken down in his office with cerebral hemorrhage. He was removed to his home, where affection and skill were alike unavailing to prolong his honorable and useful life. He died June 14, 1891.

A. C. C.

FLAVIUS M. WILDER, M. D.

Flavius M. Wilder was born June 26, 1846, in Oswego, N. Y., where he passed his childhood and obtained the rudiments of his education. He afterward received academic instruction in the seminaries at Oneida, Vernon and Cazenovia, N. Y. After completing his preliminary studies he entered the medical department of the University of Michigan, from which he graduated in 1868. As soon as he had graduated he removed to Chicago and was in continuous practice there, in the same locality, until the time of his death. At the age of twenty-two he married Miss Martha M. Brown, of Ann Arbor, Mich., a daughter of Daniel M. Brown, one of the donors of the ground on which stands the University of Michigan. Dr. Wilder was a member of the American Medical Association, of the Illinois State Medical Society, of the Chicago Medical Society, and ex-President and Clinical Instructor in the South Side Free Dispensary, which position he had held longer than any of the surviving members. He was also a member of various social, benevolent and patriotic societies, in which he was held in high esteem. At the time of his death he was in excellent health and was conducting a large and lucrative practice, in which he had secured the respect both of his professional brothers and of the laity. On the 14th of January, 1892, an insane man called at his residence to request him to visit a patient, and when the Doctor appeared he shot him in a way to cause instant death.

L. N. B.

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was while thus engaged that he was struck
with cerebral hemorrhage. He was remov
to residence and died on the morning
and useful life.

LEWIS M. [illegible]

Flavius M. Wilder,

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THE PRESIDENT'S ANNUAL ADDRESS.

CHARLES C. HUNT, M. D., DIXON.

Hygiene is defined to be the science, practical hygiene the art, of preserving health. The word hygiene has been adopted from the French, though it is primarily of Greek origin. Its more recent synonyms are, preventive medicine, sanitary science, state medicine. It is a subject that has engaged the attention of the profoundest thinkers and the most renowned leaders of men. There is, perhaps no occupation or condition in life that it does not concern. From the earliest infancy of human society, ever since, in fact, the human race has been subject to disease, measures of one kind or another have been instituted to prevent it. The ancient Egyptians, it is now conceded, enjoyed a high state of civilization. They possessed a more or less extensive knowledge of many arts and sciences, and among these, civil engineering and the art of preserving health were familiar to them. Moses, it is said, "following the example set him by the ancient Egyptian Emporers, mingled with moral precepts, many hygienic prescriptions suitable to the people and the circumstances under which they lived." The Jews, it is well known, enjoyed remarkable immunity from epidemics throughout their whole history owing to the scrupulous observance of certain sanitary rules which formed a part of their religious belief. The ancient Greeks, following the example set them by the Egyptians, founded their cities with special reference to salubrity and incorporated in their customs and religious rites many salutary rules. The old Romans exem-

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plified their concern for the public health by the construction of aqueducts, fountains and sewers, the building of public baths and gymnasiæ, and the enforcement of rules of general cleanliness.

So far as we can learn, however, the governments of Europe did not begin to occupy themselves with sanitary matters until the latter part of the sixteenth century. Some French merchants in Cairo observed that the Coptic monks, isolated in their convents, escaped the ravages of epidemics, and were led from the circumstance to found a lazaretto at Marseilles in 1649. Other European ports followed the example set them by these Frenchmen, and thus began a new era in sanitary history. The Royal Society of Medicine in England took the matter in hand, and through the exercise of its comprehensive administration it availed itself of the knowledge of the leading physicians and scientists throughout the civilized world, and by these means gave an impetus to the acquirement of the knowledge of practical hygiene which spread over all Europe and is felt to-day by every civilized people. But for many ages these matters rested entirely upon an empirical basis, that is to say, upon common observation and experience. To some extent the same might have been said of preventive medicine up until within the last quarter of a century.

To prevent disease it is evident that knowledge of its causes and modes of propagation are of primary importance. The knowledge of disease and the anatomy of diseased structures, termed pathology, the study of the causes, methods of development and propagation of disease, termed etiology, are sciences which in the nature of things could make no great advancement without the aid of the collateral sciences and the invention and perfection of many and often very complicated instruments.

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Chemistry, organic and inorganic, the invention and improvement of the microscope, were pre-requisites absolutely essential to the placing of preventive medicine upon a scientific basis. These sciences and instruments have been developed and improved largely within the last half century, many within the last ten or twelve years. Bacteriology, the science which treats of micro-organisms, had to wait for the compound microscope before it could be developed and made of practical use. Moreover, the discovery of certain dyes, the devising, elaboration, and refinement of processes of staining, were of scarcely less importance than the microscope itself. Before these processes were understood, many, nay, the most important micro-organisms eluded the vision of the most skilled microscopists, even when aided by the higher powers of their most improved instruments. Thus researches in bacteriology were greatly limited. But, after these processes were worked out and made available, the myriads of bacteria which multiply and develop in the food we eat, the air we breathe, the liquids we drink, and which infest our bodies when we are sick, were brought to light, measured, differentiated, classified, their modes of development and their relations to disease carefully studied.

It would be too great a tax upon your forbearance to pursue farther, these somewhat dry though grandly interesting events in the history of this department of medicine. But I can not let the occasion pass without paying the meager tribute of mention to two names rendered conspicuous by their matchless researches in the domain of modern bacteriology, Louis Pasteur and Robert Koch. The germ theory of disease had found firm lodgment in many wise heads long before the time of Pasteur and Koch, but it was theory only, mere speculation, or what *seemed* to be logical deductions from known facts. It lacked the important element of proof, actual repeated demonstration. Rea-

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soning by exclusion, many were convinced of the fact. The origin and career of certain diseases, for example, could be accounted for in no other way. But to see the germs themselves, and show their relation to disease were matters, so far, entirely unaccomplished. It remained for Pasteur and Koch to furnish to the world the demonstrations so long wanting and to place preventive medicine on a footing to endure for all time.

Pasteur had gained an enviable position among the great scientists of Europe, through his researches in the domain of fermentation and putrefaction. This led the French government to clothe him with a commission under which he was to prosecute studies into the cause of, and if possible to discover a remedy for, the threatened extermination of the silk industry. His researches were attended with almost unexampled success. This great industry had fallen from nearly 58,000,000 pounds in 1853 to less than one-sixth that amount in 1865. He practically restored that industry to France, and thus saved to its people many millions of dollars annually. He was among the first, if not the very first, to render possible the more intimate study of micro-organisms by cultivating them artificially outside of the animal organism. His name has within a few years been brought more prominently before the reading public of all lands, through the ingenious methods he has devised for the prevention of hydrophobia following the bites of rabid animals.

To Dr. Robert Koch, of Berlin, belongs the immortal honor of discovering, among other things, the exciting causes of pulmonary consumption and of Asiatic cholera. Preliminary to these epoch-making discoveries, he greatly improved the microscope and the technique of staining bacteria. He also originated the method of cultivating bacteria on solid media, a discovery which immensely facilitated the

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study of micro-organisms and without which it was impossible to distinguish which organism of the many found in diseased products was the exciter of the disease in question. Thus he was the first to demonstrate the germ theory of disease in the human as well as the inferior animals.

Never, throughout the whole history of its achievements, was the medical world thrilled with such intense interest as it was in January, 1882, when this patient, painstaking inquirer announced the results of his investigations, in the *Berliner Klinesche Wochen-schrift*, a medical periodical published in the city of Berlin. These articles were translated into many languages and republished in the leading scientific journals of all civilized countries. Even the lay press, usually so tardy in concerning itself with anything of truly scientific merit, was scarcely less zealous in this regard, and the name of Robert Koch and his discovery of the bacillus of tuberculosis became household words in all lands.

The electric telegraph, the telephone, the phonograph, the spectroscope—these are among the mighty triumphs of the human mind. They contribute to our material wealth, comfort and convenience, and excite our wonder and admiration; but greater than these, than all combined, are the transcendent achievements of Pasteur and Koch; for these not only contribute to our material wealth, but to those exalted benefits to mankind, the prevention and cure of disease, the preservation of health and the prolongation of human life.

Four hundred years ago Columbus discovered the new world. The whole civilized world is at this moment making preparations for the celebration of the four-hundredth anniversary of this stupendous event, and on a scale far surpassing in extent and magnificence anything of the kind ever before undertaken by man. Yet, I had rather have

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made but one, only one, of the sublime discoveries of Robert Koch, than to be to-day the living object of all this contemplated display and grandeur.

What are the practical results of preventive medicine as demonstrated in the past and very recent years? They are too numerous to be related in the short time allotted to me to-night. I shall mention but a few of them. One hundred years ago ships could scarcely be kept on the high seas on account of the ravages of scurvy; now that dreaded scourge has ceased to be known among seamen anywhere. Less than one hundred years ago the small-pox took from the population of Europe more than 4,000 lives annually, and mutilated twice as many more. Now, thanks to the genius of the immortal Jenner, this abhorrent pest has ceased to prevail, in epidemic form, in any civilized country. Typhus and typhoid fever, scarlet fever, diphtheria, each of which has in times past spread over large sections of our country, as if striving to outdo each other in their deadly march, are now known as preventable diseases, and as such largely under our control. Within the recollection of many within this hall, the cholera, that dreadful scourge whose home and propagating nest is far-off India, found its way to these peaceful prairies and laid its deadly touch upon many of our homes. Now its cause is known, its prevention within our reach, and all fears of its future visitation are rendered nil, unless, *unless*, our national government fails to do its paramount duty. Less than a generation ago the great hospitals of this and other countries were little else than charnel houses, the abodes of puerperal fever, hospital gangrene and like deadly maladies; now these institutions are no longer hotbeds of disease and death, but more salubrious, even than our model houses. Less than a decade ago certain regions of the human body dared scarce be entered by the surgeon's knife,

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owing to the infection almost sure to follow; now it cuts with impunity, even into the very seat and citadel of consciousness itself.

These are a few of the conquests of preventive medicine during this century. They have contributed to add one decade to the average duration of human life. While they excite in us emotions of pardonable pride, yet they carry with them the unpleasant reflection that they are very largely the work of foreign men and foreign governments. Our patriotism and national pride are wounded and mortified when we witness the advances made by our foreign confreres in original research under the stimuli so largely afforded them by their governments, and when at the same time we reflect that our own government, either furnishes no aid and encouragement whatever, or doles them out so grudgingly as to appear despicable.

A DEPARTMENT OF PUBLIC HEALTH.

A most pressing need of our country has been and is today a Department of Public Health. The medical profession of the United States through its journals, by the resolutions adopted by the American Medical Association and through committees sent to Washington, have time and again urged its importance upon Congress, but without success. A few years ago, it is true, a bill was passed by that body establishing a "National Board of Health," but after four years of precarious existence, during which, however, in spite of manifold obstructions, it accomplished much in the interest of public health in various states of the Union, it was starved out for want of an appropriation adequate to its needs. (It asked but $25,000!) This may have been good partisan politics on the part of those national legislators responsible for this shameless delinquency, but it was nevertheless narrow minded, and unworthy of the name of states-

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men. In a conversation recently with a distinguished ex-senator on the question of legislation in the interests of public health, he remarked: "In the eyes of the average politician no animal is so cheap as the human animal." A humiliating confession, indeed, but I suspect there is only too much ground for the belief that the remark is founded on fact.

Now, there are a great many good doctors in this country; some bad ones I admit—not many perhaps. There are a great many bad politicians in this land; some good ones I admit—not many perhaps. But in any event, whatever may be the shortcomings of either, on one proposition there can be no honest, intelligent disagreement, namely, *that the human animal as such, should be at least as much the concern of government as the hog or cow.*

We have a Department of Agriculture with a practical farmer at its head, who, by virtue of his office, is a member of the cabinet. This department is of recent origin, but has already reached a position of such importance and has shown itself of such vast usefulness to the material interests of the country, as to challenge our profound respect and excite anew our national pride. "I venture to say," remarked Dr. Suiter, in his admirable presidential address to the Medical Society of the state of New York in February last, "that, if any argument is needed to demonstrate the importance and feasibility of a National Department of Health, it could readily be found in the history of the wonderful progress made in the science of agriculture and the diversified interests connected with it in the brief period since it was elevated to the dignity of an executive department. Aided by appropriations lavishly bestowed by congress, its scope and powers have been enlarged to such an extent that it has already attained to a sphere of use-

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fulness and accomplished results which justify the pride and appreciation of every American citizen. Within its scope is included a great variety of divisional departments, having for their objects the technical observation and study of subjects relating to the care and protection of the health and lives of plants and domestic animals.

"Among these numerous divisions—too numerous to allow of even mention here—there is maintained and endowed with most adequate appropriations by congress, a Bureau of Animal Industry, wherein a systemized scientific study of animal pathology is pursued, comprehending the necessary investigations pertaining to the protection and treatment of all the diseases to which the domestic animals of the country are subject. Renowned expert pathologists, microscopists, and veterinarians are employed and comfortably salaried, and laboratories and appliances are provided for the prosecution of this work, the success of which has been so great that, according to the latest report of the Secretary of Agriculture (to which I am indebted for many of these facts), the almost total eradication of the contagious diseases of animals has been accomplished."

" (It costs the national treasury, or rather the people of the United States, over $1,500,000 annually to supply the needs of this department.) Agricultural experiment stations (in which these investigations are made) are now in operation in all the states and territories except Montana and Idaho. Of the fifty-five stations in the United States, fifty in forty-three states and territories receive their support, wholly or in part, from the United States treasury. These stations employ 450 persons in the work of administration and inquiry. The mailing lists of these include about 350,000 names."

I might add, in passing, that, even horse dentistry

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has become a science, an outgrowth of veterinary medicine, indirectly encouraged by the government. The teeth of this most valuable animal are now filed and cleaned and polished into a condition more conducive to his health and temper, than those, perhaps, of his master. Thus many vicious and unruly steeds are rendered tame and manageable, and their value greatly enhanced. It is not without the range of possibility, too, that that next noblest of our domestic animals, the blessed muley cow, will come home some summer evening smiling, serenely, in the possession of a new set of artificial teeth. She deserves as much, at least, as a partial compensation for the horns she is so ruthlessly deprived of.

Now, the work being accomplished by this new Executive Department is deserving of all praise. The medical men of this country would be among the last to complain of the vast expenditure necessary for the maintenance of this important service. On the contrary they have contributed and will continue to offer all the aid and encouragement in their power, toward promoting our agricultural interests, and all other interests for the public weal; but, at the same time, the 75,000 physicians of this country should demand it as a right, not due them as physicians, but as citizens of this great republic, and largely responsible for the health of its 65,000,000 of people, that, the human animal as such, shall be placed at least on an equal footing with domestic animals. Hath not man eyes? Hath not man hands, organs, dimensions, senses, affections, passions? Is he not nourished with the same food, hurt with the same weapons, subject to the same diseases, healed by the same means, warmed and cooled by the same winter and summer as swine and cattle are? If you prick him does he not bleed? If you tickle him does he not laugh, and if you poison him does he not die? If he resemble the lower ani-

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mals in these, why withhold from him the blessings so bountifully bestowed upon them?*

If so much has been accomplished by the Department of Agriculture, in matters material, what might not be accomplished by a Department of Public Health in everything pertaining to our physical welfare, and indirectly to our social and moral well-being?

What are some of the reasons why congress should establish a Department of Public Health?

If disease cripple our shipping or drive it from the ocean, is not that a matter of government concern? When it clogs the wheels of commerce or puts an embargo upon trade, is not that a matter of government concern? When pestilence threatens from abroad, is not that a matter of government concern? Yes, all these *are* matters which *do* concern the National Government—after a fashion. But, when our food and drink are poisoned and our medicine for the sick adulterated, should these be no less the interest of the government? When pestilence stalks through the land from state to state, when 20,000 of our active young men are killed by the railways of our country annually, and three times as many more crippled or maimed for life, when pulmonary consumption, alone, takes from our population 100,000 annually, and when diphtheria, scarlet fever, typhus, typhoid and yellow fevers and other preventable diseases sweep from among us untold numbers every year, should not these call loudly for government interference?

It is not claimed that the government does absolutely nothing to promote the sanitary interests of its citizens. It appears that the Treasury Department, the State Department, the Navy Department and even the Internal Revenue Department, each has, at times, had something to do with matters pertaining directly or indirectly to the health of our people.

*Parody on Shylock—Merchant of Venice.

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Then there is, also, an efficient Hospital Marine Service, which I can only mention in this connection; but, *the government has no well defined sanitary policy, a policy based as it should be upon enlightened and progressive sanitary knowledge, and directed by a competent and responsible head.* Apropos of this, permit me to quote a paragraph from an able editorial in the *Journal of the American Medical Association* of January 12, 1888, the distinguished author of which (if I mistake not the authorship) is among us to-night: "There is no good reason why a special department of public health should be buried in a department of the government that is entirely foreign to the whole matter, or for thinking that the public health of this country can be properly attended to by two or three scattered bureaux in dissimilar departments of the government. Few will deny that this country has as much need of a department of health as a department of the navy. Certainly there is a more pressing need of having some form of administration that will keep cholera, yellow fever and other diseases out of the country, than of repelling hostile human invaders. Our navy, such as it is, is kept for possible future emergencies; we need a public health department for pressing present necessities and dangers. The country has been and is, too often placed in jeopardy by the carelessness of irresponsible state boards of health, ignorant commissioners and so-called experts. The inland states have repeatedly suffered from outbreaks of preventable diseases, on account of the gross carelessness of the health officers of the coast states; this would be obviated by a government health department. The coast states and cities have been placed in peril by diseased food from the inland states; this could be obviated. When a manufacturer of impure food-stuffs is prevented from selling his adulterated articles in one state, he can still sell them in states where

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there is no stringent law or supervision; this could be obviated. As the matter now stands, one state may quarantine or detain against cholera or yellow fever a sufficient length of time, while the health officers of the adjoining state may make insufficient quarantine or detention, thus destroying the efficiency of the health regulations of the first state; this could be obviated by a Department of Public Health. One state has regulations in regard to the heating and lighting of railway cars, and their sanitary conditions, while three or four other states through which the same railway may pass, utterly disregards such matters. The matter of vital statistics is alone large enough to require a special bureau, as is also the matter of construction, ventilation and drainage of buildings."

In an interview published in Kate Field's *Washington* of February 24 last, Dr. Comegys, among other things, says: "A department of public health would be a center of sanitary work, which would collect all the data about the progress of medical science which goes on throughout the country, and disseminate such information wherever it might be needed. No other public bureau would so quickly reach all the people or benefit them so greatly as this one under consideration." To the question "What would be the functions of the department, and would it not interfere with the state and municipal health organizations?" The Doctor answers: "On the contrary, it would aid them very largely by its systemization of facts and unification of work. Among the subjects it would investigate as essential to health would be the amplitude and purity of water supply, proper dwellings for the working classes without overcrowding or deficiency of light and air, adulterated or diseased food, complete drainage, the preservation of rivers and smaller streams from pollution, the regulation of the hours of labor, the protection of chil-

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dren from the imposition of toil, the cleanliness of streets * * * the establishment of public baths, the isolation of persons attacked with infectious diseases, the construction and management of general and special hospitals, it would devote special attention to the great increase of insanity, the impairment of the will, by which so many sufferers are made irresponsible. The relation of insanity to our criminal processes makes it specially desirable that there should be organized investigation of it under government auspices." Moreover, it would collect vital statistics under regulations that would render them valuable and truly national in character, such as we do not now possess, "but which would probably point toward the solution of many of our most perplexing social problems." · ·

These are a few—not all by any means—of the great objects with which a department of health would have to do. Its functions would be enlarged as its usefulness become more and more apparent, and as the requirements of our advancement in civilization would from time to time justify.

The bill, which I will refer to again, now pending in congress to establish a Department of Public Health has not yet come up for consideration, and probably will not be reported back by the committee having it in charge, during the present session. If we may judge the future by the past, the outlook for its favorable consideration in the very near future, is, indeed, not very encouraging. There is a something about proposed legislation in the interests of public health that the average legislator can not or will not fully comprehend. It is that the physician is always foremost in efforts to bring about legislation, which, in the very nature of things, aims at the curtailment, or absolute abolishment, of the very sources from which he derives his sustenance. Yet this is an every-day fact, and has been since the time of Hippoc-

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rates, and always will be, until the coming of the Millennium.

We are animated, however, by the hope that, in due course of time, public sentiment will be awakened to the imperative needs of our people, and that it will ere long compel our public servants to understand that health is the most desirable kind of wealth, and that to prevent disease is one of the highest functions of the law-making power.

STATE SOCIETY.

We meet to-day in our forty-second annual session. With the exception of 1861–62 our sessions have been uninterrupted. So many of our members during those two dark years in our nation's history were engaged in the great work of caring for the nation's defenders in hospitals and on the tented field, staunching the wounds of war, that it was deemed inexpedient to call meetings for the times specified; an evidence, if any were wanting, of the patriotism of the physicians of our great state.

From its organization in 1850 up to the present time the work of this association has kept pace with the progress of scientific medicine everywhere, and in more instances than one its members have signalized themselves as authors and teachers, the merits of whose works have been acknowledged at home and abroad.

CONSTITUTION AND BY-LAWS.

For a number of years prominent members have thought that the Constitution and By-Laws of this Society had become inadequate to its requirements.

These thoughts took form in a series of resolutions which were unanimously adopted at the Rock Island meeting in 1888, under which a committee was appointed to prepare a new Constitution and By-Laws to be considered at the next meeting. This committee was enlarged at Jacksonville in 1889 and re-

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ported a revised Constitution and By-Laws at the Chicago meeting the following year, which was adopted. There being some incongruities in the instrument thus acted upon, the matter of harmonizing them was left to the Chairman of the Committee on Revision and the Permanent Secretary. Owing to the absence of the Chairman at the Springfield meeting in 1891 on account of sickness, the work assigned this committee was not completed, and the matter was referred to the Committee on Publication. This committee has completed the work, and I am happy to feel assured that we now have an organic law and system of rules that will fully cover the needs of the Society for many years to come. We are now thoroughly organized under the revised order of things, and better equipped than ever before for carrying out effectively, expeditiously, and aggressively too, the spirit and objects for which we annually assemble.

LAW FOR COMMITMENT OF THE INSANE.

Since 1869 repeated efforts have been made by this Society to secure a modification of the statute for the commitment of the insane. The practical workings of the law has on many occasions since its enactment appeared shocking to our sensibilities and often oppressive to the unfortunate beings who should be the objects of our tenderest care and sympathy. Strange, incomprehensible and inconsistent as it may appear, these laudable efforts have met with decided opposition on the part of many of our legislators. These seemed to force a contest with the representatives of the great body of physicians of the state. The latter maintained that the law in question was too restrictive, neither humane nor beneficent, often the contrary in its operations, not in touch with the spirit of the age—in short a relic of the dark ages. The former, that its operations had always been satisfactory, that it protected the liberty of

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the citizen, and that any modification whereby its restrictions were lessened would seriously endanger that liberty. Happily, as we all had reason to believe, the contending parties succeeded at Springfield last year in agreeing upon a compromise measure, which it was thought would meet with no serious opposition in either branch of the legislature, and would soon become a law. Unfortunately our newly cherished expectations were doomed to disappointment. That august body for some reason or other, failed to pass the measure. I very much underrate the pertinacity and spirit which dominate this Society if the matter be permitted to rest where it is. After twenty-three years of unselfish endeavor to effect an object so beneficent, so philanthropic in all its bearings, to abandon it now would savor strongly of cowardice, an attribute not characteristic of the members of this organization. I need not suggest that you take proper action in the matter at this meeting, and at all future meetings, until the object is attained. The committee having the matter in charge last year was "continued with power to represent the views of this Society." Let us, through this committee, express our views in no uncertain terms.

COLUMBIAN EXPOSITION.

Your President, Dr. Matthews, last year in his Annual Address made certain suggestions in regard to a state medical exhibit at the coming Columbian Exposition. As near as I can learn, nothing has been done toward carrying out these suggestions up to the present time. This matter should not be permitted to go by default. I trust that some of the members of the Society will feel sufficiently interested to take the initiative in a movement to the end that Medical Illinois shall be properly represented at the great Fair next year.

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PAN-AMERICAN MEDICAL CONGRESS.

The Pan-American Medical Congress is now an organized and incorporated institution. It promises to make itself one of the great medical bodies of the world. Its meeting in Washington in the first week in September, 1893, will be the first of its kind in the Western Hemisphere, and from the character of the men in charge of its management it is fair to presume it will be second only in interest to the World's International Medical Congress. It will be the means of bringing together for scientific work and social intercourse many of the leading medical men of the various countries comprised in North and South America and the islands adjacent. It can not be doubted that the "friction of mind upon mind" in a gathering of this nature will exercise a great influence in advancing the science of medicine in all its departments, and in uniting in more intimate bonds of friendship and fraternity the various Pan-American nations. It would seem eminently proper therefore that the Illinois State Medical Society should take suitable action during its present session to aid and promote the aims of this most laudable enterprise. The general and special regulations formally adopted by the incorporators, upon the recommendation of the Committee on Permanent Organization, are published in a circular letter, which has been inserted also in the *Journal of the American Medical Association*, to which all are respectfully referred.

A motion to adopt resolutions exemplifying the sentiments of this Society in relation to the congress, I shall be pleased to entertain at the proper time.

DEPARTMENT OF PUBLIC HEALTH.

Pursuant to a resolution adopted by the American Medical Association at its annual meeting in May last, a

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committee with Dr. C. G. Commegys, of Cincinnati, at its head, was appointed by the President of the Association to memorialize congress to establish a Department of Public Health and the appointment of a Secretary of Public Health. This committee composed of thirty of the ablest members of the Association presented their petition in due form to both bodies of our national legislature, and soon after, a bill as before referred to, was introduced in the senate by Senator Sherman and in the house by Congressman Caldwell, covering the matters in question. How these bills will fare at the hands of our national law-makers remains to be seen. So important a measure should receive the cordial support and encouragement of this Society. Members, too, in their individual capacity, should write to their senators and representatives in congress urging them to use their best efforts in furthering the passage of this beneficent measure.

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SECTION ONE.

PRACTICE OF MEDICINE, MEDICAL SPECIALTIES AND THERAPEUTICS.

CHAIRMAN, THOMAS M. CULLIMORE, JACKSONVILLE.
SECRETARY, J. W. WHITMIRE, FORREST.

Illusions and Delusions in the Practice of Medicine.

N. S. DAVIS, M. D., CHICAGO.

Psychologists have defined an *illusion* to be "a false perception of a sensorial impression." In other words it is mentally investing real objects with properties or qualities they do not possess. A *delusion* is an inference or deduction founded on an illusion or false perception of the qualities or capabilities of any substance or object with which we have to do. If we mentally invest or attribute to any article of the materia medica, or any therapeutic agent, properties that it does not possess, it is an illusion, and if we, acting on the supposition that such illusion is a verity, apply it in the treatment of disease, it is a delusion. Or, if in studying the etiology and pathology of disease, we attribute to causative agents and morbid processes qualities that they do not possess, and make them the basis of practical inferences, we are equally dealing in illusions and delusions. Perhaps the most common mode of establishing and perpetuating illusions of a pathological and prognostic character consists in selecting one or more prominent symptoms of disease and investing those symptoms with all the qualities and consequences of the disease itself. Among the most important and familiar examples of this kind are the symptoms designated as high temperature, cardiac weakness or insuf-

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ficiency, and debility or exhaustion, as used in connection with acute general diseases. Thus in a large majority of the more recent works on practical medicine we are taught, in language the most direct and positive, that the chief danger to the life of the patient in acute pneumonia, typhoid fever and kindred diseases, is from *cardiac weakness* and *high temperature*. By such authoritative statements the chief attention of the practitioner is given to careful noting of these two symptoms, and his applications of remedial agents is aimed almost exclusively at their control. Consequently remedies classed as cardiac tonics and antipyretics become his chief reliance in a large majority of his cases, and in all stages of their progress. And yet, every thoughtful pathologist must know that both the cardiac weakness and high temperature of acute diseases are simply symptoms or results of morbid processes affecting the cardiac, vaso-motor and respiratory nerve structures and the metabolic changes concerned in heat production and heat dissipation, and not, *per se*, diseases dangerous to life. On the contrary they are only valuable prognostic signs or symptoms indicating the degree of derangement taking place in the blood and tissues of the body, from the action of various causes capable of influencing the functions in equally various directions. The natural strength of the muscular structure of the heart, as well as that of all other muscular structures, depends upon the integrity and normal arrangement of its atoms; the sensibility and action of its nerves, and the presence of natural arterial blood. A failure in either of these three conditions would induce cardiac weakness. But one cardiac weakness dependent upon fatty degeneration of the cardiac muscular fibres; another upon the toxic and paralyzing influence of ptomaines, leucomaines or other septic agents upon the cerebral and cardiac nerves; and still another upon such pneumonic or other obstructions

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as so far diminish the amount of oxygen and increase the proportion of carbon dioxide in the blood that it neither sustains the natural susceptibility nor contractility of the muscular structure, would indicate widely different pathological conditions,, and certainly should suggest equally varied modes of treatment.

Equally true it is that *high temperature* is the result, in one case, of diminished activity of the processes of heat dissipation; in another of increased activity of the processes of heat production; and in still another of disturbances of both the processes of heat production and of heat dissipation, but in an unequal degree.

It is evident, therefore, that both heart insufficiency or weakness and high temperature in connection with acute diseases, are only symptoms or indications of a dangerous degree of interference with the functions of the nervous centers and ganglia, the tissue metabolism, or with the quality of the blood; and that the danger to the life of the patient is in the nature and degree of these interferences, and not in the degree of cardiac weakness and high temperature.

The paramount evil resulting from the illusion of investing cardiac weakness and high temperature with the attributes or qualities of chief danger, is, that it directs the mind of the practitioner inevitably toward an indiscriminate employment of cardiac tonics and antipyretics, instead of a discriminating selection and use of such remedies as would be most efficient in removing the pathological conditions on which these two prominent symptoms depend in each case or form of disease.

Instances of indiscriminate use of supposed cardiac tonics, on account of the alleged paramount importance of cardiac weakness, are not limited to the treatment of acute febrile affections, but may be found in the reported treat-

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ment of all diseases or accidents accompanied by depression or feebleness of the heart and circulation. Thus in a recent number of the *Therapeutic Gazette* it is stated that M. Chauvel recommends the following treatment of *shock:* "For the purpose of re-establishing the circulation, the patient is put in an absolutely horizontal position and massaged. He is also given alcoholic frictions and subcutaneous injections of ether. For the purpose of maintaining the bodily temperature, the air of the room is well heated, and the patient is surrounded by hot bottles, or placed in a bath of the temperature of 105° or 110°. Alcoholic stimulants, such as rum or brandy are administered in doses of from one to two ounces. When reaction has been obtained, the stimulants are combined with opium for the production of sleep. In cases where shock is prolonged, strychnine, digitalis and belladonna are to be employed, and electricity may be of great service."

Here we have substantially the same indiscriminate employment, both externally and internally, of remedies aimed at the relief of cardiac and vaso-motor weakness induced suddenly by either mental or traumatic shock and associated with *coldness*, that we find recommended in nearly every recently published work on practice of medicine for the cardiac and vaso-motor depression coupled with high temperature in pneumonia, typhoid fever, etc., namely, rest in the horizontal position, alcoholic frictions, ether injections, hot bottles or hot baths, and alcoholic stimulants, opium, strychnine, digitalis, belladonna and electricity. We have not only an illustration of the indiscriminate use of remedies induced by the illusory importance attached to particular symptoms without regard to the actual pathological conditions on which they depend, but we have an equally striking illustration of the employment coincidently for the same purpose, remedies of the

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most diverse or antagonistic effects upon the living system.

Thus we have a patient massaged, frictioned with alcohol, and subcutaneously injected with ether—all very active agents for increasing cutaneous exhalation and evaporation, and thereby rapidly reducing the bodily temperature; also surrounded by heated air, hot bottles, or hot-water baths, ostensibly to warm the same body, but which really still further relax the peripheral vessels and lessen nerve sensibility; and at the same time full doses of alcohol internally alternately with strychnine, digitalis, belladonna, etc., the first a direct anæsthetic diminishing cerebral, cardiac and vaso-motor nerve sensibility and action, while the other three influence the same structures in a markedly opposite direction.

The mental illusion that continues to invest alcohol, as it exists in fermented and distilled liquids, with the attributes of a stimulant and cardiac tonic, is one of the most remarkable and persistent that exists, either in the profession or in the community. And the delusive applications of that agent in the treatment of diseases and accidents, caused by such illusion, are too numerous to mention. In almost every case of nervous depression or weakness from the simplest temporary syncope or shock, to the more serious toxic poisoning of the cardiac, vaso-motor and respiratory nerve centers in the acute general diseases, it is the first remedy brought into requisition, and the last to be relinquished at the bedside of the dying. If the patient recovers, it is attributed to the efficiency of the remedy, and if he dies, it is because he did not take enough, even though he may have taken from twelve to twenty ounces of whisky or brandy per day for two or three weeks. And yet all this illusional and delusional work continues, notwithstanding the fact that daily experience and the most ac-

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curate experiments of Dubois, Sidney Ringer, Martin, H. C. Wood, Abel and others have demonstrated, as clearly as that two and two make four, that the alcohol directly diminishes the sensibility and action of the cardiac, vaso-motor and respiratory nerve ganglia and centers in direct ratio to the amount entering into the blood; and is consequently an anæsthetic and cardiac paralyzer instead of a stimulant and tonic. Another very popular and mischievous illusion consists in investing the last remedy we give a recovering patient or the latest method of treatment, with the credit of having effected the cure, when in many cases its influence was merely negative, and in others the recovery was in spite of its deleterious effects.

This is specially illustrated by the numerous and ever-recurring morbid conditions of a temporary or self-limited duration, such as syncope, mental and traumatic shock, and the cold stage of fevers. In almost every case of nervous depression, faintness or shock, the utmost speed is made for the wine, whisky, brandy or camphor bottle, and the first one or two draughts are said to "bring them out all right," when a large majority of them were already recovering before the remedy could reach them, and all would have recovered just as quickly with nothing but rest, fresh air and a spoonful or two of water, without any of the after bad effects of the alcohol on the stomach and nervous system. And, in times past, how many thousands of patients (and physicians, too) have confidently believed that their shivering coldness of the chill had been stopped by the repeated draughts of the most hot and pungent drinks that could be devised, when, in truth, they had only got their stomachs filled just in time to greatly aggravate the epigastric distress and vomiting of the hot stage of the fever paroxysm. Has not the time arrived when every practitioner of medicine should practically recognize the fact that all grades of

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nervous depression, faintness and ordinary shock are but temporary in duration and are most speedily and perfectly relieved by rest and the application of fresh air to the pulmonary and cutaneous surfaces and the addition of occasional slight dashes of water to the latter? The cutaneous and pulmonary surfaces are in most ready physiological reflex relation to the vaso-motor, cardiac and respiratory nerve centers, and it is through the application of the natural stimuli, *air* and *water*, to the two first that temporary depressions of the latter are relieved, and then the addition of simple nourishment in the stomach instead of anæsthetics under the delusive name of stimulants will more certainly render the relief permanent. If the profession would firmly act in harmony with these views and teach the people to do the same, it would result in not only greatly lessening the annual consumption of the products of the distilleries and breweries, but it would also cause a perceptable decrease in the annual ratio of mortality.

I will further trespass upon your time long enough to notice only one more important illusion that has occupied the professional mind through all periods of medical history. It is the mental investment of every new discovery, in either etiology, therapeutics or prophylaxis, and every new method of treatment, with an exaggerated or fictitious importance and influence, and consequently it deludes each generation with the idea that it is far in advance of all that had preceded it. Thus, when anatomical and physiological investigations had proceeded far enough to reveal the fact that all living organized matter possessed a property of susceptibility or irritability and of vital affinity, as well as the chief functions of nerve structures, the doctrines styled solidism or vitalism were evolved, on which was based the practical system of therapeutics styled antiphlogistic, that ruled the medical world for half or three-quarters of a cent-

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ury. When, in the further development of organic and analytic chemistry, the composition and properties of the various structures, organs, secretions and eliminations were revealed, showing that almost all toxic or disturbing substances causing disease were capable of rapid elimination by natural processes, and that nearly all acute diseases were of self-limited duration, it quickly furnished a basis for the reinstallment of the ancient dogma of a "*vis medicatrix* nature," and the substitution of the system of *expectancy* as taught by Forbes, Bigelow, Holmes and Chambers.

When the active application of the microscope was made to the study of the processes of growth and repair, under the skillful hand of Virchow and others, the doctrine of cell-growth in all structures, healthy and morbid, was evolved, and to the doctrine that all acute diseases are self-limited was added the claim that each disease was a definite process of growth, maturity and decline that could not be interrupted by therapeutic agents. Thus the cellular pathology, added to the modern expectancy, so completely established the theory that diseases must run their course, that all the physician had to do was to nurse his patient and let the *vis medicatrix naturæ* have fair play. Consequently, the present generation had well nigh wearied itself in reiterating denunciations against the barbarism of the active antiphlogistic medication of its predecessors and in singing pæans to the superior efficacy of *nature*, when another step was taken by turning the wonderful powers of the microscope upon the field of etiological research. The resulting rapid revelation of pathogenic germs in air, earth and water, and their equally rapid assignment as the specific and essential cause of nearly all the more important diseases, brought into equally rapid use such an array of active therapeutic agents, called antiseptics, microbicides, etc., that the unfortunate sick were

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soon being medicated by mouth, by rectum, by hypodermic injection, by inhalation, and by cutaneous scrubbing, with an activity that can hardly find a parallel in the palmiest days of venesection and physic. Even the atmosphere surrounding both surgeon and patient had to be medicated during the amputation of a toe or the opening of an abscess. Of course, specific medication for the destruction of specific causes and the cure of specific diseases now rules the hour, and the wonderful revolution it has wrought in both medicine and surgery, is heralded as one of the great events in human progress. And yet the faithful student and unpretentious practitioner still finds the same number and forms of diseases in his daily round, and the registrars of vital statistics continue to register about the same ratio of diseases and deaths in this last decade of the nineteenth century as their predecessors did in the first. What, then, is the important inference from all this? It is not that the profession makes no real progress, and that its vaunted discoveries are only hallucinations of the mind, for every advance in general science and philosophy has added new facts and materials of value in medicine. But the real fault is that each prominent new fact or discovery is immediately invested with such an illusory importance that it is made to overshadow and temporarily place in obscurity whatever immediately preceded it. The discoveries and added facts in each period to which I have alluded were real and valuable, and those of each should have been carefully studied in relation to those that had preceded, and thereby adjusted to their proper place in the temple of true medical science instead of being placed in the attitude of an obscuring excrescence, only to be obscured in its turn by a succeeding one. The injunction, to try all things carefully and hold fast that which is good, is as valuable in medicine as in any other relation of human life.

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DISCUSSION.

DR. D. R. BROWER, CHICAGO:

I desire to thank Dr. Davis for his very interesting paper. The question of illusions and delusions, of which we all have some knowledge, is an important one. It is difficult for us to tell *post hoc* from *propter hoc*. We have experienced this difficulty from the day we began to practice until the present, and it is a great barrier to our substantial progress in medicine. I have nothing new to offer, but simply desire to express my thanks to the Doctor for expressing the sentiments that he has. I think to-day we are in an era of pathogenic germs, and a few years hence we will be out of that and into something else. The pendulum keeps moving one way or the other.

DR. RICHARD DEWEY, KANKAKEE:

I feel impelled to say a word in connection with Dr. Davis' admirable paper. In my experience I have occasion to consider a good deal the effects of delusions and illusions that are oftentimes important symptoms of insanity, and the question is an important one whether an illusion or delusion is insane in its nature or is an evidence of insanity. There are many delusions and many illusions which are not necessarily insane in their character. They do not show necessarily a disordered mind, but yet are not founded upon a sufficient basis of truth. The delusions that sweep over the country from time to time and take possession of the minds of large numbers of people, we are familiar with and are constantly meeting with them. In medical lines they are perhaps specially noticeable. One of the ways in which they are manifested to-day is a markedly exaggerated importance attached to various real or imaginary discoveries. We have seen them recently in the great excitement produced throughout the world by the supposed discovery of a remedy for consumption by the German pathologist, Dr. Koch, which had been elaborated by him, and which, it was claimed, would cure consumption. An immense excitement was caused and considerable harm done to the cause of medicine and to individuals by an exaggerated idea with reference to that matter.

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Another idea that occurred to me, and I am sure my professional brethren will appreciate it, was what Dr. Davis alluded to when he spoke of the belief that that remedy which was used last was the one which had worked a cure. How often have we had occasion, in our treatment of patients, to labor earnestly for their recovery, and the case proving tedious and chronic, and finally, some other means being adopted, the patient getting well. We oftentimes believe ourselves to be robbed of credit which is due us. I have seen Christian Science and various other illusions and delusions carry off the palm which had, I believe, legitimately been earned by regular members of the profession.

DR. N. S. DAVIS JR., CHICAGO:

The great difficulty in estimating the exact action of drugs as they are commonly used by the profession, arises often from a lack of mental training and the power of discriminating between the effects of the drugs and the numerous other conditions that are acting simultaneously on patients. It is this fault in methods of reasoning that produces these delusions or illusions. This will be undoubtedly largely obviated as time goes by and as practitioners become more thoroughly educated in scientific methods of thought, and as our students are more thoroughly educated in those methods. To-day in medical-teaching institutions the main object of instruction is to give information to the student and not to train his mind correctly so as to become a genuine investigator of scientific methods. He is simply given information as regards the structure of the human body and the action of medicines upon the body; therefore he goes into the world giving medicines for diseases which are named. A certain drug, for instance, will be used constantly because it acts well in dyspepsia or typhoid fever or some other disease of a given name, not because the individual appreciates thoroughly its precise mode of action on the human body, the effect it exerts upon one organ or set of tissues or chemical changes within the body. We can only learn to use drugs scientifically by appreciating the exact conditions of disease and the action of drugs upon the diseased state, or upon the individual factors constituting the diseased state. In order to do this discriminatingly,

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students should be educated to do scientific work in their college courses. They should be educated to perform experiments themselves in the laboratories, not necessarily new ones, but they should work along the lines of original researches by which others have made discoveries and by which knowledge has been acquired definitely, so that the methods of obtaining such knowledge may be acquired. It is only by a better mode of education of the people that these delusions and illusions which are so prevalent to-day can be swept away.

DR. WILLIAM W. WELCH, GALESBURG:

Personally, I am very much obliged to Dr. Davis for his suggestions on this important subject. He talks right along in the line of the late Austin Flint Sr., whom everyone knew. In my early days I was familiar with his work and especially the manner in which he used to talk; that all acute diseases were self-limited, that we could do very little but to assist in their removal, or to prolong life until their culmination. We all understand the matter of illusions and delusions, but the point Dr. Davis suggested to my mind was this: that in hospital practice you can prescribe any remedy and no one will be discontented; and yet, in private practice, I presume there are many gentlemen here who, sometime in life, have found this a very difficult thing to do, for the reason that friends or relatives of the patients interfere. The question is not altogether how we shall conduct the cases to their self-limited termination, but how we shall satisfy friends and relatives of patients who are always interfering. This is a practical matter for the country doctor. It does not refer to the college professor nor hospital practitioners.

DR. J. M. G. CARTER, WAUKEGAN:

I am very much interested in the paper of Dr. Davis, and the suggestions and thoughts he has presented have certainly been verified in my own experience and observation. I have been led in my observations of disease to a conclusion that does not differ perhaps from that of a great many members of the medical profession, that the system when it is suffering from disease needs as much support as it does when it is suffering

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from the burdens of labor, and that a sick man needs to be nourished and sustained as much as a laboring man, and in the last few years it has been my custom when I come to any disease, unless the stomach is particularly involved, where temporarily the nourishment is interfered with, to push the nourishment, and particularly so in that class of diseases to which Dr. Davis has referred—the fevers. I believe with Dr. Davis that the ordinary routine treatment of pneumonia and typhoid fever is likely to prove unsuccessful, and that until we have found some better mode of treatment we shall fail. I used to think that if I lost one patient only out of six of typhoid fever I was pretty successful, because that is what the text-books say. I followed the line of treatment suggested by the text-books. Finally I began to think it was very unfortunate, both for me and my patients that I should lose one case out of six of typhoid fever, and two years ago I made up my mind to change my plan of treatment, which I did a year ago last February. At that time we began to have in our place quite a run of typhoid fever, and beginning with February, 1891, and ending with February of this year I treated thirty cases of typhoid fever on the plan that I had decided to adopt, that was of forcing nourishment from the very beginning and not relying on antipyretics or anything else in the form of drugs to break up the disease. But with the belief that most people if they are properly nourished will be able to fight the battle with a disease and come out victorious, I began treatment, giving, as has been recommended by some foreign authors, about two litres of milk, taking that as a standard, in addition to other forms of liquid food, every twenty-four hours, for an adult, pushing that nourishment and simply giving a little mineral acid to overcome the pathological condition as suggested by Dr. Davis and by Flint, and using also some heart tonic like digitalis. By carrying out this line of treatment I succeeded in saving every case of the thirty, which seemed to me remarkable after the history that I have had before and the unfortunate results which had followed the old-time treatment. Many of these cases were extremely severe, running from five to eight weeks. Nourishment was the basis of my treatment in many cases. I came

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near losing one case, a case which came into town from the country. I followed the line of treatment suggested by the family physician by which I was obliged to keep the fever down with antifebrin or some other remedy of that nature. The remedy suggested was acetanilide. I fall in line with Dr. Davis' suggestion exactly in that we should not look so much after the reduction of the temperature as in removing the causes that produce these things. I thank the Doctor for his paper.

DR. ELLEN H. HEISE, CANTON:

It struck me as a very favorable era in medicine when we found we could reduce high temperature so readily. But of late we observe more and more heart failure. I fear it is partly because the profession has resorted too readily and freely to antipyretic remedies.

DR. JOHN WRIGHT, CLINTON:

There was one point that occurred to me when one of the gentlemen was speaking of feeding the patient, which I think is very good in its place, but it appears to me that when we have pneumonia, typhoid fever, or any of those affections we can feed too much. When the stomach is in a condition that it generally is with these affections, it has not been my experience that the food is well retained. I think in the early part of the treatment patients are overfed and more harm is done than good.

I agree with all that has been said with reference to high temperature and its reduction by the use of antipyretics. These drugs have done a great deal of harm—not doing as much at present as heretofore, simply because physicians are learning how to use them.

While I am on my feet I desire to make another remark in reference to Dr. Davis' paper in which he alludes to alcohol. I want to say that I have used a good deal of alcohol in my practice, and I have seen very little or no beneficial effect from it. I want to say that I believe I have the first case to see in which I have ever seen alcohol do any good in case of shock. I have given it in cases where I believe it did no good, but it was given because it was the custom of the profession. Where physicians

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prescribe it in shock and pour in whisky until the stomach is filled, it does no good, and the stomach will certainly eject it.

DR. N. S. DAVIS:

My object in writing the paper was to excite thought and awaken attention more than for any other purpose. If I had taken up all of the points of the subject it would have required a long essay, but I thought if I could put it in such shape as would attract attention and excite discriminating thought it would be doing at least some good. I will not take up your time now by attempting any development of illustrations of the truth I sought to inculcate. I will make one remark however in regard to the point raised about feeding fevers. I was brought up upon milk and I have used it every day when I could get it; yet I believe if we undertake to feed our patients so many pints or quarts per day through any disease, no matter what it is, because that is the quantity they will need to keep up the standard of health, we will in a great many instances find that we have wasted much of the material used. In many cases a large part of it passes through the bowels without having been absorbed, particularly in enteric typhoid fever. What thus passes off does not nourish the patient at all, and by fermenting often adds to the patient's suffering. Then again, when a patient is in the latter stages of fever of a continued type the bowels are generally loose, and if you put more in the stomach, whether it is milk, eggs or egg nog, or anything else, than, in its diseased condition it is capable of acting upon and assimilating; instead of strengthening your patient you are simply giving him something to undergo fermentation and bring about a generation of gases and ptomaines. The rule should be to watch and give your patient just so often and so much nourishment as he is capable of taking up and assimilating, and not embarrass him by any more. Simple nourishment, good fresh air and a plenty of it, are the two essentials of human life, and they should never be lost sight of in medicine. Drugs come in as helpmeets to the nutrition and good air; but unfortunately we sometimes find our patients in small, uncleanly rooms and in circumstances so low that it is

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absolutely impossible for us to furnish good air. But we should always try to give our patients good water and pure air and plenty of both, and nourishment, not measured by the pint or quart, but measured by what we carefully judge the organs of assimilation, will make use of.

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MEDICAL USE OF ERGOT.

KATHARINE MILLER, M. D., LINCOLN.

Ergot, like many others of our valuable remedies, began its therapeutic career in the hands of those outside our profession. It was in somewhat common use among German midwives as early as 1688. Nothing further was heard of it in medical circles until 1774, when mere mention again occurs. In 1777 M. Desgranges of Lyons, began using it, and published several articles on its use during the following years. Before its use became common in France, however, Dr. Stearns, of New York, introduced it to the profession in this country. In 1820, Dr. Merriam, and in 1825, Dr. Davies, published articles on it. Thereafter its use in obstetric practice became common. Of its use in other than obstetric cases no mention is found until much later, and its general effect on the system seems not to have been carefully studied. Early observers concluded that "it acts on the uterus entirely through the nervous system; that its influence is specific, confined principally to the uterine organs, and the pulse is only secondarily affected, in consequence of the increased action of the uterus. In many cases it has appeared to diminish the frequency of the pulse. Dr. Hardy, from accurate notice of a large number of cases in which ergot had been administered, came to the conclusion that it diminished the frequency not only of the mother's pulse, but also of the child's. With the spread of its use in obstetric practice and for other uterine difficulties involving hemorrhage or other profuse discharges,

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a natural curiosity led some to try it in other diseases until in 1877 the United States Dispensary mentions its trial in hemoptysis, gonorrhœa, dysentery, diarrhœa, paraplegia, vesical and rectal paralysis or paresis, spermatorrhœa, hysteria and intermittent fever, and Dr. George B. Wood inquires: "May it not have the power of producing contraction in capillaries in general, or of interfering in some other way with the circulation of the blood in the vessels as by the exertion of a direct sedative or paralysing effect?"

Meanwhile, Dr. Samuel Wright had found the oil valuable as an anodyne external application in rheumatism and toothache and as a styptic in wounds.

Most therapeutic works of reference of that time, however, dismiss, with a mere mention, all except the uses dependent upon uterine action, even pronouncing ergot without influence on man.

As late as 1841 prominent physicians utterly denied its effects on the parturient uterus. With longer use and experiment, however, the value of the drug had become gradually understood, but I have found no evidence of careful scientific study of its physiological action beyond the effects on the uterus earlier than about 1871, except those of Wright in 1839, and Bonjean in 1845, which are largely studies of its poisonous action in large doses on animals. The complexity of the substance has made it more difficult of study. Different methods of preparation have secured different extracts varying in constituents and effect, so that the details of its action admit of large latitude of argument and controversy. Probably the preparations representing the drug most completely are a reliable fluid extract, and Bonjean's ergotine, a well-prepared aqueous extract entirely different from the active principle which the name suggests. There is no longer doubt that ergot excites the vaso-motors and certain other nerves of the ganglionic system. Upon

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its effects upon the vaso-motors, most of its usefulness in general practice depends; though doubtless the effects on other nerves or centers must be considered in its action on the bladder, and, to some extent, on the walls of the intestines. It seems indeed, to affect the motor nerves of unstriated muscle in general, probably through action on the nerve centers rather than on the peripheral nerves, though there is evidence that certain elements, especially those *not* found in the aqueous extract, affect the peripheral nerves. The most prominent effect, aside from its uterine action, is on the caliber of the arteries or arterioles which become markedly contracted under its action. This results obviously in a great rise of blood pressure. Accompanying this, and probably in part due to it, is a slowing of the heart-beat. Several experimenters have shown this effect to be mostly due to action on the peripheral cardiac pneumogastrics. This slowing may amount to ten to thirty-five beats per minute, but rarely, if ever, is the pulse reduced below sixty. The amount of contraction of the caliber of vessels under the influence of vaso-motor stimulation is very great, and as the drug is not very rapidly eliminated, it has a certain persistency, requiring some time to relax completely when under control of full physiological doses. Ergot in toxic doses, as would be expected, causes a paralysis of the nerves, and arterial dilatation follows. It is probably due to exhaustion of the nerve centers by over-stimulation, but of course the factor of muscular exhaustion with lack of irritability and failure to respond to nerve influence may well be also a factor.

That ergot influences other unstriated muscles than those of blood vessels and the uterus is beyond question. In large doses it excites in animals very active intestinal peristalsis. It is probable that decidedly large doses are needed to produce this effect and no data are given pointing

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to any usefulness from this action in the treatment of disease, though it would seem that in peritonitis or enteritis with congestion and threatened intestinal paralysis it might be indicated. Its effect on the muscular structure of the bladder is more available, and here as in the uterus, it seems to stimulate the sphincter muscle even more than those of the fundus. It is therefore useful in paralysis of the bladder, but more especially in paralysis or imperfect development of the sphincter vesicæ with consequent imperfect control of urine, as in the incontinence of childhood with undeveloped sphincter and of age with atrophy of the muscles or exhaustion of the spinal centers through disease. The weight of evidence showing that these results are in part due to peripheral action, the use of ergot in full doses is rational, if not otherwise contra-indicated, where there is paralysis vesicæ or paralysis of the sphincter vesicæ from spinal injury affecting the vesical centers in the cord. The possible contra-indication would lie in the effect of the treatment on the primary injury.

Ergot has been considerably employed with satisfactory results in various diseases of the spinal cord. Its use is recommended in spinal congestion by no less authorities than Brower, Hammond, Spitzka, etc. It is true that testimony is not unanimously favorable. So prominent a therapeutist as Bartholow says that ergot induces an anæmia of the arterial distribution, an ischæmia properly speaking, but the blood that is driven from the arterial side accumulates on the venous side, hence while the arterial supply may be reduced, the veins of the spinal canal are unduly distended. This statement however, seems based on unusual conditions, since the increased arterial pressure could not result in venous distention unless it were sufficient to react through the pulmonary circulation and the right heart. This could only happen in cases of insufficiency in the left

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heart from lesion of the aortic valves permitting the increased blood pressure to be so transmitted backward. It appears evident however, that so long as the heart continues fully competent for its work the lessened arterial supply must result in lessened venous supply, allowing over distended veins an opportunity to recover themselves. The danger of regurgitation acting injuriously is lessened by the fact that the vaso-motors of the lesser circulation under normal conditions are less promptly acted on by ergot than those of the systemic circulation, so that the dosage of ergot sufficient to cause active contraction of the systemic arterioles with great increase of blood pressure there would have less effect on the pulmonary circuit. It must be remembered too, that venous tone is increased by ergot, so that the veins are not entirely helpless in the face of the possible catastrophe. The complexity of these relations and the possibility of error in the use of this as of other powerful remedies, merely show that the physician who is a successful therapeutist must mix and apply his medicines as the artist Opie mixed his colors, "with brains."

Ergot has been used in spinal scleroses for relief of "lightning pains" with good success, but there is reason to fear that in such cases it merely operates by hastening that pathological destruction of elements which would otherwise after longer delay have secured the same result, relieving nerve irritation by securing starvation and extinction of the nerve elements. In acute congestion and inflammation of the spinal cord, and of the brain as well, ergot has an undoubted value, restoring the tone of vessels dilated or overcharged with blood, relieving the nerve elements from pressure and assisting in the return to normal conditions. In this way congestive hemicrania as well as other forms of headache attended with active or passive hyperæmia may be relieved.

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The effect of the active contraction of vessels in other regions is equally favorable. It has been utilized especially in pulmonic congestions, pneumonic and otherwise. It is true that the pulmonary vaso-motor system seems less easily effected than the systemic, yet when a condition of vaso-motor paresis or vaso-dilator irritation (as the case may be) exists, the response is prompt and not attended with unpleasant symptoms from increase of blood pressure throughout the body.

The usefulness of ergot in pulmonary hemorrhage has been recognized for some time. Its use to prevent the onset of hemorrhage and even the slight escape of blood accompanying pneumonic congestion would seem to follow naturally but appears not to have been appreciated. Early in my practice a case occured which proved an effective object lesson to me. A four-year-old child of a friend was ill with apparently a simple catarrhal fever; as I sat watching her, the quickening breathing attracted my attention. Physical examination showed pulmonary congestion beginning. Cardiac depressants were promptly used and counter irritation applied to the chest. Two or three hours passed with steadily quickening respiration and harder laboring heart marking the progress of the disease. It seemed as if the vessels of the lungs were paralyzed and filling to distention with blood. I reflected that ergot *ought* to control that condition and began using it; ten drops of the fluid-extract every fifteen minutes; then as the effect began to appear a dose each hour. In two or three hours more the child was out of danger, the heart beat slower and fuller, the labored, quickened breathing passed away and the case resolved itself into its former simple catarrhal condition. In few cases has the physician had the opportunity to act so promptly, but in many a case I have seen excellent effect in limiting such trouble when too late to entirely prevent it.

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In certain cases of severe irritating cough accompanying the influenza of the past winter ergot has been very useful. The condition appears to be an intense congestion of the bronchial mucous membrane without exudation; indeed the membrane is abnormally dry. At a meeting of the Brainard District Medical Society, Dr. Hurst of Greenview reported a fatal case where atelectasis apparently occurred, there being seemingly absolute adhesion of the dry inflamed surfaces of the smaller air passages. Expectorants utterly failed to relieve these cases. Sedatives gave at most only temporary relief. The cough was most trying to the patient. Believing the condition to be as described, I prescribed ergot freely and in the several cases where I used it, the result was a prompt alleviation of the extreme annoyance and a reduction of the condition to that of an ordinary bronchitis. The cases were too few to make broad statements therefrom, but they certainly point to the possible relief of a condition most difficult to control and of a really serious nature.

The effect of ergot on hemorrhage wherever occurring is excellent, though it can not act quickly enough nor probably are the muscular fibers capable of sufficient contraction to check hemorrhage from very large vessels. In pulmonary hemorrhage as mentioned, in renal or vesical or intestinal hemorrhage and in many cases of cerebral hemorrhage its good effects if used in efficient doses will be manifest. Even in passive hemorrhage from venous obstruction, its action may at times be reasonably invoked, especialy if a rapidly beating heart with low blood pressure is forcing more blood upon the congested area. By slowing the heart and encouraging more complete filling of the ventricles, the pulmonic circulation may be relieved with relief hence to the right heart and systemic veins. Through this action also ergot proves an efficient adjuvant to the digitalis or other heart stimulants even in cases where no oozing of

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blood under venous pressure has yet occurred. A condition frequently met with is that of the intestinal hyperæmia accompanying diarrhœa, dysentery and enteric fever. As might be expected, ergot is most successful in the cases where a chronic congestion and diarrhœa follow an acute attack, where, in fact, the continuance of the discharge is due to the increased secretion caused by relaxation of the vessels of the intestinal mucosa with over-nutrition and increased activity of the secreting epithelium. In cases where a poisonous ptomaine exists, or where the intestine has become a culture tube for pathogenic bacteria, ergot will prove useless until these are removed. It must therefore, be combined with other remedies in acute dysentery when its use is indicated by the hemorrhage accompanying the disease.

The occurrence of hemorrhage is so much dreaded, the destruction of tissues following intense hyperæmia of certain regions of the intestines so well recognized in enteric fever that the use of ergot as a preventive of these unfavorable symptoms can but be logical. To wait until intestinal hemorrhage occurs, or to allow intense hyperæmia to persist for days or weeks, is to invite an unpleasant issue. The remedy which promises help in such a case is equally willing to act as a preventive. Ergot in such cases is not comparable to the direct astringents which may be given later, in the hope of their reaching the diseased spot and exercising a local effect, nor is it open to the objection to their prophylactic use that they lock up the bowels with possibly poisonous materials within, which should pass off, checking even normal secretions and coating the bowels with more or less irritating or, at best, useless foreign material. Ergot does not check peristalsis like opium, but rather strengthens it, probably, and acting through the blood supply there is little risk of reducing the nutrition,

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and hence the secreting capacity, of the epithelium below the normal, nor does its use interfere with the use of other remedies which may be indicated. It helps to prevent the hypostatic pneumonia so much feared, and in the moderate doses available as a prophylactic measure it may be continued for some weeks without derangement of digestion.

It would prolong this paper too much to dwell upon its use in splenic enlargement and leucocythæmia, night sweats, aneurism, galactorrhœa, diabetes insipidus, etc., to enumerate all the various forms of disease to which its ability to cause contraction of the unstriated muscle and to slow the heart's action render it adapted. In conclusion, therefore, let me affirm that ergot used in free doses within physiological limits has a wide field of usefulness in general practice, and to emphasize the value of its use as a preventive of hemorrhage and other accidents due to vascular distention or rupture and liable to occur in a large number of diseases. That its efficient dose is often large, and that the long-continued use of such doses or their use at all under some conditions where increased blood pressure is dangerous, has certain risks, should not be to a rational physician a reason for omitting from his armamentarium a valuable remedy.

References: Ramsbotham's Obs. App. C., Edn. 1856; U. S. D., 1847 and 1880; Dunglison's New Remedies 1856; Wood's Therapeutics, Edn, 1891; Bartholow's Mat. Med. and Ther., Edn. 1879; Phillips Mat. Med. and Ther., 1879; Landois & Stirling, Physiology, 1886; Foster's Phys., 1880. etc.

DISCUSSION.

DR. I. N. DANFORTH, CHICAGO:

Mr. President, allow me to say, to begin with, that I appreciate the paper that has just been read, and I have learned a great deal more about ergot than I knew before. I do not know why I was put down to open the discussion on this paper, for I

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know very little about ergot, because I use it very little, and perhaps that was the reason. I certainly can add nothing that will detract from the value of the paper or its excellence. There are two or three points, however, that occurred to me that I would like to speak of. The first one is that ergot has little or no effect upon normal tissue. If it has any at all, it is limited in extent. It does not produce an appreciable effect upon normal healthful structure, but only upon pathological contractile tissue, and that is the reason we use it. In that fact lies its great value.

When we prescribe it, as we constantly do, to arrest hemorrhage from the lungs, bowels, bladder or uterus, what do we do? We simply address the remedy to abnormal blood vessels, and hardly ever do we prescribe it except with that end in view. Take it in almost any case, as, for example, pulmonary hemorrhage. We address the ergot to the distended blood vessels which have acquired new cells, new fibres—fibres which are in process of development. It is only upon such tissues as that, it appears to me, that it acts promptly or with any certainty. That is a very important point, and in recognizing it, the main therapeutic value of ergot lies. But you say, how about the uterus? It contracts that in a normal state, or I should say in a pregnant state. That is just the point that I deny. We do not expect muct effect from ergot on the latent womb. It is only a womb that is enlarged by very rapid growth, that is studded with new cells with very large nuclei, which has an affinity for this remedy. Suppose it did affect the normal structures? We should be apt to a large extent discard its use, for the reason that it would be dangerous to use. Suppose that it influences the capillaries all over the body or the smaller vessels, we could not depend upon any certain therapeutic result. I do not find this point spoken of in our books, yet it seems to me an important one in its use. Again, take its use in tumors of the uterus, and it is used in such cases constantly for the purpose of expelling fibroids or of controlling the loss of blood. What is the state of the structures there? As soon as the fibroid begins to enlarge so does the womb; it grows along with it. How does it grow? By multiplication of its cells and enlargement of the fibres, so that it is

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thrown into a pathological state. Of course it is to a certain extent a normal physiological growth, but it is not like the latent womb. It is an active growth, and it is only upon tissue of that kind that ergot acts. Another point. This accounts to me for the therapeutic peculiarities of the remedy. It accounts for the results we get, and it seems to me it explains why when we use it, it does not effect the normal structure. Take it in diseases of the spinal cord where it is used constantly in sclerosis, what is the condition there? There is a new growth of connective tissue and enlarged vessels with their new fibres. We address the remedy to this new tissue, which is pathological, and we may use it for weeks or months safely. Why? Because it does not affect normal tissue. If it did it would not be a safe remedy. We should have vascular spasm all over the body, perhaps, or spasm of the heart, with consequent danger and death. This accounts for its real value.

Now as to its effect upon the circulation. I have never seen ergot alone affect the rate or character of the pulsations. I have used it many times alone for the purpose of improving the tonicity of the circulatory system, and I have never seen any marked results that I could attribute to its use. If you give ergot along with cardiac tonics you get results, not from the ergot, but from the combined cardiac tonics, and yet there are many conditions where we need a combination of remedies, where a distinct group of abnormal vessels needs the contractile effect of ergot, while the heart needs the effect of a tonic. In such cases one remedy affects the ventricle, while the other effects the distinct group of vessels, whether in the kidney or elsewhere. In my experience I frequently need the combined effect of ergot and other drugs, but I have never seen the heart visibly influenced by ergot alone.

The local use of this remedy, I think, was not spoken of in the paper. It has been recommended locally to contract the vessels, as in the throat, nose, and in cases of irritable ulcers, etc. Its local effect upon newly developed vessels, which are studded with or made up of embryonal cells, is quick and efficient, and hence its local application is sound therapeutic practice.

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DR. D. R. BROWER, CHICAGO:

I desire to say a word or two about the use of ergot in a condition in which the writer, if I understood her correctly, condemned its use, namely, in sclerosis of the spinal cord. I am sure that in all the forms of spinal sclerosis when, as the history of these cases show, there is an increase in the progression of the symptoms, from an increased activity of pathological action, manifested by pain, by increased muscular disturbance and greater incoördination, then ergot may be used with benefit, and may stop the progression of the disease, because I believe this state of things has been the result of a congestion such as Dr. Danforth has talked about, and the power of ergot to contract the blood vessels would be manifest. At the same time the patient should be kept as quiet as possible.

In giving ergot I presume every practitioner in this room has had the experience I have had, that about one-half of the preparations of ergot on the market are absolutely worthless, and it is not an easy matter, by our ordinary methods, to tell the good from the bad, and that is one of the reasons why the profession differ as to its value.

There is another application of ergot that has not been mentioned here either by the essayist or by Dr. Danforth, and I think it is well worthy of our consideration. It is its effect upon the enlarged prostate. I believe that ergot, along with the constant galvanic current, applied directly to the enlarged prostate gland—well, I will not say it will remove the enlargement, but I believe it prevents an increase in the enlargement of the organ, and possibly do more. I also use with this treatment, cimicifuga. These two drugs, along with the galvanic current, in cases of enlargement of the prostate gland, I have found beneficial.

We are indebted to Dr. Miller for an admirable review of history and the physiological and therapeutical uses of this important remedy.

DR. W. C. CALDWELL, FREEPORT:

With regard to the effect of ergot in general, I am becoming more and more skeptical as to its therapeutical effect. I have

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known, time and again, as you probably all have, of ergot being taken by pregnant women in all stages of that condition in doses of the most heroic kind, and have never known a woman in my life that brought on a premature labor by the use of it.

Of course, the discussion of this subject brings up the fine spunned theory that you must have a certain pathological change in the tissues before your remedies take effect. I ask this question, whether that is contrary to the physiological effects of remedies in general? Take, for instance, any other remedy, and test it upon a healthy individual as you would upon an animal, and it absolutely produces no effect; we throw it aside as a therapeutical agent. The longer I use ergot the more I am skeptical as to its effect. We give it in certain cases of labor, but the more advanced man never gives it at all. Do not give your remedy until the os is either perfectly dilatable or is entirely dilated, then you can use ergot. You have commenced it when in nine cases out of ten the uterine action has been feeble, and from that moment the organ is aroused by contraction and you have an entirely different condition of things.

DR. ELLEN H. HEISE, CANTON:

I only wish to say this, that it seems to me in speaking of the use of ergot in labor, that it is a mistake to suppose that we must always use it in heroic doses. I seem to get a good effect from it where I want to increase the strength of the contractions to a slight degree late in the second stage of labor by giving it in ten or fifteen drop doses, watching the case closely. I have often thought I got just the result I wanted.

DR. O. B. WILL, PEORIA:

There is a point brought up in connection with the discussion that I wish to refer to. I take issue with the remarks of Dr. Danforth and Dr. Caldwell with respect to the effect of ergot on the uterus. It has always seemed to me that, whether in a state of pregnancy or not, ergot had the effect of producing contraction of the organ. I have frequently administered the drug to women for other purposes than that of producing contraction of the muscular fibres of the uterus. I have never administered it without their having complained to me of that peculiar feeling

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of weight, of tension and pressure that characterizes contraction of the uterus. It has seemed to me that in every instance in which I have used it there has been more or less of that condition brought about.

With respect to the action of ergot in producing abortion, I certainly take issue with the doctor. I have known a large number of cases in which abortion was produced by women from the use of ergot who did not use anything else, and there was absolutely no other reason why abortion should have resulted. They used it in large doses, and that was the result. Many women use the drug for such purpose without effect, but in a minority it will prove effective.

DR. KATHARINE MILLER, LINCOLN:

I wish to call the attention of Dr. Danforth to a point in regard to the abnormality of the tissues on which ergot acts. He spoke of it truly as not mentioned in the works on therapeutics. Our books on therapeutics speak of its action on normal tissues as illustrated in the tissues of animals in experiments; the effect which is comparatively slight on normal tissue might quite possibly be much more marked in the condition of which Dr. Danforth speaks. It seems to me probable that this is the reason why you can use ergot safely in doses which might otherwise produce an unfavorable effect on the normal tissues while it is acting on the abnormal structures. I was glad to have my attention called to that point.

As to its use locally, I have used it in local conditions successfully, but did not attempt to dwell upon that point in the paper.

The point I made regarding its use in cases of spinal sclerosis was simply in those of a slowly progressive nature. It was mentioned by the authors. Its use in tissues which were already contracted under the influence of spinal sclerosis would be simply to hasten that contraction, to more rapidly shut off the blood supply and hasten the destruction of the tissues. Even if that were the case, it does not follow that Dr. Brower is not strictly correct in the statement which he makes of its effect on the spine in acute conditions occurring in sclerosis.

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Its use in connection with the uterus and its analogue, the prostate, I purposely excluded. I simply touched upon the medical uses of the drug. There is no doubt in my mind that ergot must have an effect upon the prostate and uterus, Dr. Caldwell to the contrary notwithstanding, and some other authorities, who contend that ergot has little or no effect on the uterus in many conditions, if not in all.

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THE TREATMENT OF SELF-LIMITED DISEASES.

CARL E. BLACK, M. D., JACKSONVILLE.

In calling attention to the subject of the treatment of self-limited diseases it is not intended to advance any new theories of treatment, advocate the use of particular drugs or methods, or to make any extended report of cases. The object is rather to present in a questioning way, some of the problems which perplex young men in medicine, questions which are constantly presenting themselves to young men for solution. It is hoped that by suggesting some of these problems satisfactory and complete explanations will be given by those who are full of wisdom, and rich in the experience of many years. Young men feel privileged to ask questions, and expect those older in experience to answer them.

There are many things which are calculated to bewilder the student of medicine, but they are multiplied ten-fold after he has been in practice a few years, and has become acquainted to some extent with the habits of treatment persued by the practitioners with whom he comes in contact. And his bewilderment is in no wise diminished by consulting authorities, for these he finds contain equally conflicting views and dogmatical statements. The young man soon discovers that he can find authority, more or less good, for almost anything.

The special object of this paper is to call your attention to a brief consideration of some points in the treatment of

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acute self-limited diseases. That is those diseases which run a more or less definite course, and tend to recovery. Please bear in mind especially the last statement, "tend to recovery." Take as examples typhoid fever and pneumonia. These are as different as possible in the onset and in the course they pursue, and yet both have a more or less definite course, and both tend to recovery. A large number of such diseases could be mentioned, but these two will serve the purposes of illustration.

In every case of acute febrile disorder of a definite character we have general symptoms which are brought about by a systemic poison. This poison is generated in some seat of local inflammation, which is properly the seat of the disease. There is a sore with all the characteristics of an external local inflammation. In fact in some diseases under this head the seat of inflammation is external, or partially external, as in erysipelas, scarlet fever, etc.

The severity of each case depends on the extent of the inflammatory lesion, the amount of the poison generated and absorbed into the system, and on the resisting powers of the individual.

The relative proportion of these three elements is infinitely varied in different cases. The systemic disturbance may be great from an apparently small lesion, or *vice versa*, the lesion may seem large and yet give rise to little systemic disturbance. The peculiarities of the individual and his surroundings have much to do with the severity of an attack of any acute disease.

It is a general proposition beyond dispute that by the time we are able to positively diagnosticate an acute disease of this class it is too late to use any means to check it. To say that we have aborted a case of typhoid fever or pneumonia simply means that we have failed to make a diagnosis, and it would be far better to be honest enough to acknowl-

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edge that the typhoid fever or the pneumonia had not existed at all, and that we had simply been mistaken, instead of trying to humbug the patient and his friends into believing that we had accomplished a great and wonderful thing.

When typhoid fever exists, that is when the inflammatory process is begun in the intestinal glands, and sufficient general symptoms have been produced to enable the physician to make a diagnosis, the disease is there, and will run its course in a fairly definite way in spite of all the abortive measures ever tried! When the lung is attacked with the pneumonic process, and we have the signs and symptoms on which to base a diagnosis, the pneumonia is there to stay, and to run its course, and no amount of drugging will avoid it. It is absurd to say that a patient would have had pneumonia if certain large doses of quinine had not been administered promptly. How can pneumonia or typhoid fever be predicted before it has arrived? It is difficult to imagine that when typhoid fever or pneumonia is sufficiently fixed in the human economy to enable the physician to make a diagnosis that it can be shaken out by a few doses of quinine or other medicament.

Even before the question of diagnosis is settled there comes an important consideration. That is, not to mask the diagnosis by instituting vigorous treatment too soon. It is not probable that vigorous measures of treatment will be demanded before the diagnosis is fully settled. Frequently cases are treated for malarial fever with large doses of quinine until, much to his embarrassment, the physician is forced to change his diagnosis to typhoid fever just in time to have the certificate of death properly filled out. Added to the probability that if the administration of the quinine had been postponed a little the diagnosis would

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have been made early, is an equally strong probability that if the quinine had not been given at all the patient's chances for life would have been materially improved. If the teachings of works on therapeautics are worth anything it certainly gives quinine a little more place in the treatment of typhoid fever than morphine would have in the treatment of opium narcosis.

Quinine acts strongly on the nervous system, and by its use all the nervous symptoms are intensified. When we hear a doctor say that he has made a diagnosis of typhoid fever by "carefully eliminating the malarial element by the use of quinine" we can predict with reasonable certainty that his typhoid case will be one with intensified nervous symptoms. A very common error in diagnosis is to fail to differentiate meningitis from typhoid fever. It should be rare that a case of typhoid fever is diagnosticated as malarial fever. Malaria should not be used as the shield for our mistakes. The risk to our patients is too great. It is far better to say the disease is not sufficiently developed to make a diagnosis. Above all do not try to force a diagnosis by the use of quinine, for we will certainly do harm if the case proves to be one of typhoid fever.

Let us look for a moment at the general characteristics of acute self-limited diseases. In the first place we have a person previously stricken down by an acute onset of disease, having been preceded by premonitory symptoms more or less pronounced. Then follow all the symptoms of an inflammation. These diseases are variously named accord- to the seat of inflammation. There is fever as a constant factor in all. The tendency of all is to run a definite course and to end in recovery. There is an inflammatory lesion of which the producing cause is the same in every case of the same disease. Modern research would lead us to believe that every disease of this class has a specific organic cause, and

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further that this causative agent is similar in all these diseases.

We should always bear in mind that a fatal result follows in only a small per cent. of cases, and always from one of two causes—either there is some complicating element in the case, or there is such an intensity of the poison from the first that a fatal result is almost inevitable. The toxic principle is forced into the system in such quantities that all the vital functions are overwhelmed and overcome in spite of all efforts to assist in eliminating the poison and to sustain the patient. This is peculiarly true of pneumonia. Frequently cases are seen in which the lung fills up so rapidly, and the general disturbance is so great, that the patient is carried away by the intensity of the disease process.

The fatal cases of typhoid fever are more frequently the complicated ones; but still all have seen cases which from the beginning seemed almost certain to terminate fatally on account of the intensity of the process.

In considering the treatment of these cases the first thing which engages our attention is the question of specifics. Do we possess any specifics for any or all of these diseases? Almost every drug in the pharmacopœia has been accredited with some specific action in one or more acute diseases. But still we will be tolerably safe in saying there are no specifics for these diseases, and in the very nature of things it seems almost impossible that there should be. The proof that several of these conditions are of germ origin, and the inference that all the others have similar causative agents, has given a clue to the group of remedies among which to search for specifics.

After the germs of typhoid fever have been implanted in a patient and have developed sufficient activity to enable us to make a diagnosis, it is probably too late to apply spe-

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cifics. The use of salicylic acid in rheumatism and mercury in syphilis probably approach more nearly specific remedies than any we know, and yet there is much doubt whether they really cut short an acute attack of rheumatic fever or syphilis when they are once well established. Still the acute symptoms of rheumatism often seem markedly modified by the salicylic treatment. Of course the specific action of quinine in malaria is beyond dispute. Thus it seems tolerably well settled that, with very few exceptions, it is beyond the power of the physician's art to cure diseases. The doctors of past generations cured diseases. To-day it is a question whether it is within the reach of the healing art to cure, except in comparatively few instances. Even in so simple a thing as opening an abscess we only do that which nature was trying to accomplish, and thus, by assisting the natural process, hasten the reparative process. The broadest usefulness of the physician is found in watching closely the efforts of nature, studying the methods by which she is trying to effect a cure, and rendering such assistance as will be useful. Above all, we should be absolutely sure that we do not interfere with nature's plan and retard it, thus doing harm.

It would seem that the general and promiscuous use of antipyretics and remedies which have marked depressant effect on the circulation must be harmful, and retard and endanger the final favorable conclusion of acute disorders. The general use of veratrum, aconite, and the coal-tar derivatives in pneumonia illustrates this thought. The thing most to be feared in this affection is a sudden failure of the heart's action. The best authorities agree that veratrum acts by its power to paralyze the heart muscle and the vasomotor system of nerves—that it is a cardiac poison and also a respiratory poison. The use of veratrum in pneumonia would not seem desirable as a routine practice, how-

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ever valuable it may be in the onset of certain selected cases.

That there is a very large amount of useless medication in vogue in the treatment of these diseases, seems evident, and that some plans of treatment are actually harmful, is more than a possibility. Of course experimentation in the effects of therapeutic agents is necessary to the advancement of medical science, but such experimentation should be coupled with accurate observation. Empiricism should not be confused with experiment. Our first consideration should be for the welfare of the individual patient. Since, when our case is once established, we can not abort it and have no specific agents with which to combat it, our first object should be to look well to all the general conditions of the patient and his surroundings. Such considerations as the bath, spongings, diet, hygienic measures, climatic influences and the like should be thought of first. Put the patient in the most favorable condition to resist the disease. The public must be educated to expect more wholesome advice and less useless drugging. Let us remember that much of the medication in vogue is a matter of fashion, and changes almost as rapidly as the seasons. The truly scientific advances in medicine never change, because they are founded on truth and not on theory.

Where is the dreaded plague which once devastated vast populations? Science has stamped it out with its agent—hygiene. How is it that cholera and yellow fever do not spread like the prairie fire and destroy thousands of our inhabitants as they used to do? Science has fenced them in with its agency—quarantine. How is it that cases of small-pox appear but do not spread their contagion to our communities? Science has placed its shield, vaccination, about us. What has become of puerperal fever, with all its dangers to life and home and happiness? Science has sent its agent, asep-

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sis, to prevent it, but if it should appear has given us the agent, antisepsis, with which to control it and stamp it out.

These are a few of the posts which stand out prominently to mark the real progress of the last few years in the management of disease. These advances have nothing to do with the giving of drugs, but are infinitely more important, not that we should think for a moment of abandoning the use of drugs, but they should not be considered all-important. Do not despise such advice as fresh air, good light, clean linen, the bath, quiet rest in bed, comfortable, quiet surroundings, and nutritious but appropriate diet and attention to the excretions and secretions. It will be the exceptional case of an acute, self-limited disease which will really demand the administration of drugs when all the general conditions are fully attended to. We know that when the disease is established there is little in our art that will affect it directly, except as we observe what nature is trying to accomplish, and render assistance or remove obstacles which lie directly in the line of her efforts. Certain symptoms may be modified and the strength of the patient conserved by well-chosen measures which will assist nature in her efforts.

The largest field of usefulness in the future is to be found in warding off disease by sanitary protective measures and by securing individual immunity. It is hoped that the discussion of this subject will bring out more in detail the usefulness and the uselessness of the measures and agents in popular use in this class of diseases. We have few remedies which are definitely shown to be useful in acute self-limited disorders, and there is little general agreement among authorities as to what measures will be found useful. One author recommends an agent, another author of equal standing condemns it. Most of the present treatment is empirical and not founded on any reasonable physiological or even ex-

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perimental basis. While we are trying to find remedies which will do good we must remember to be sure and do our patient no harm. Recognize the power of nature and assist her, for, if her efforts are seconded judiciously, she will allow few to die. The following quotation from a well-known authority (Herrmann Nothnagel, of Vienna, *Popular Science Monthly*, May, 1892,) is full of meaning: "Although the expectation and the possibility of controlling the fundamentals of pathological processes are so limited, the healing art is nevertheless not doomed to vain contemplation and inactive dallying. While art can not master nature, it can follow it with diligent observations. The truth of this remark covers a genuine progress and furnishes the key of the success of really great physicians. To investigate the exact origin of pathological changes, to ascertain by what methods and under what conditions disturbances of the organism are most easily overcome or counterbalanced, deliberately to support and imitate these methods, if possible, and, before all, do no harm, is the way by which the healing art can accomplish something important and good. History proves incontestably that practical efficiency at the sick bed goes in an exactly parallel line with the cultivation of scientific methods. Medicine to-day, without yet being able directly to cure the pathological condition, reaches, simply by following the principles here laid down, incomparably more favorable results than formerly. It has learned, first of all, not to interfere so as to destroy the course of natural compensations, but seeks by dietetical, hygienic and climatic influences here, by the removal of excitants there, by methodical stimulations of the matter-changes of the nervous system, to put the organism into a condition to overcome the pathological disturbances. To use such measures, carefully adapted on principles of scientific observation and enlarged knowledge of the course of disease to the most diverse con-

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ditions, continually to furnish a closer support to the natural compensations and adaptations that is one of the ways in which the healing art must turn in order to enlarge its scope."

DISCUSSION.

DR. GEORGE N. KREIDER, SPRINGFIELD:

It is a little unfortunate that Dr. Black's paper did not follow the excellent one by Dr. Davis read this morning. I believe it was on the same line of argument, and a great deal which was said in the discussion of Dr. Davis' paper could well be said in the discussion of Dr. Black's paper. I am very glad that two members of the Society have taken up this subject of the practice of medicine.

If you remember, last year the Society was welcomed to Springfield by an address from the governor. Gov. Fifer did not use any stronger language about the methods of practice of the medical profession than has been used by either Dr. Black or Dr. Davis, but he was roundly berated for the expressions he used on that occasion. I will say further in regard to the governor that he has repented of his expressions on that occasion. He had la grippe the past winter, and I have not seen a more grateful patient than his excellency, and further, he has taken every occasion to express his regret that his address was so misunderstood.

In the discussion of Dr. Davis' paper this morning we were told that we should rely upon principles and not upon authorities in the treatment of disease, and every successful practitioner has very early in his practice found out that he could not rely upon text-books nor upon the expression of his professors in the treatment of the diseases that came under his care. The Doctor has well brought out the point of over medication. We go in consultation and find a doctor has given six or eight different remedies, one for fever, another for sweating, one for high pulse, etc., which are constantly harassing the patient but doing nothing to cure the disease.

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He has spoken of the prevention of typhoid fever and other diseases. I have a little to say regarding the prevention of scarlet fever, which comes in the line of the Doctor's paper. We are a little ignorant of its cause, although it is claimed that the germ of scarlet fever has been discovered. I had an observation of this kind. There were two children in a family, the older was taken with scarlet fever, and there were intense throat symptoms before I saw the case. The older child was four years old, the younger a year and a half. I prescribed steam spray for the sick child, and the family asked whether I could prevent the disease in the younger child. With this object in view I used a steam spray of listerine diluted one-half in the younger child. The younger child developed very mild symptoms of scarlet fever with two or three patches in the throat similar to those which had occurred in the first child but lasting only twenty-four hours. The temperature was elevated and there was a slight eruption, but no further development of the fever. I had occasion to try this hint in two other cases exposed to scarlet fever and succeeded in preventing any great amount of disturbance. The theory is that the virus of scarlet fever enters the throat, and by disinfection of the throat for ten minutes every three hours, I hoped to prevent the development of scarlet fever in others exposed. I do not say that I did it, but the plan might prove valuable in the future, and I shall endeavor to carry it out.

Lastly, the other point I make is this, that we should not forget to look at the question of treatment from the standpoint of the patient. A doctor seldom puts himself in the position of the patient. The patients want the doctor to tell them about their little troubles and attend to them, and we should either by medicine or by advice, gratify this whim of the patient. This is not so much true in acute febrile diseases as in the slight ailments which we are apt to pass by without any advice at all. They amount to nothing perhaps in our estimation, but amount to a great deal in the patient's mind.

DR. J. L. WHITE, BLOOMINGTON:

I just wish to say that I was pleased indeed with the able

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paper that has just been read, and I believe it is on the right track. It occurs to me that in a disease that we know has got about so long to run, that it is the part of duty at least to conserve the strength of the patient, to commence early to support him. By the early commencement of supporting treatment in the way of nutrition in these cases we prevent dangerous after effects. I remember that among the first books I read upon the practice of medicine was Bell and Stokes, and they speak of the danger we call heart failure following typhoid fever, and mentioned the administration of heart tonics, such as strychnia in small doses early in the disease. Perhaps that might be modified a little at the present day, but the principle seems to be a correct one, and I have no doubt that if followed, it prevents sudden death in some cases of typhoid fever and other self-limited diseases. The principle point I arose to bring out was support in the way of nutriment, which should be commenced early and persistently persevered in to the end.

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THE EPIDEMIC OF DYSENTERY IN WHITEHALL, ILL., IN THE SUMMER OF 1889.

DR. H. W. CHAPMAN, M. D., WHITEHALL.

The city of Whitehall, containing about two thousand inhabitants, lies on high rolling ground, is excellently well drained, both naturally and artificially, and although the rainfall was excessive in the early part of 1889, and particularly in May of that year, when it reached the unprecedented amount 10.63 inches. There was at no time any water standing on the surface of the ground within a few minutes after it had ceased falling. The city is kept cleaner as a rule, than the average of small towns, and is healthy above the average.

The surrounding country is well drained, both naturally and artificially. A very large portion of it being tiled. Is ordinarily healthy, and was afflicted by the epidemic probably to as great an extent in proportion to population, as was the town, the disease making its appearance simultaneously in town and country.

At the commencement of the epidemic, the mayor and council ordered everything cleaned up, especially wells cleaned out, privy excavations disinfected, stable yards cleaned, etc., in fact put everything in a most excellent sanitary condition.

In this section dysentery is not usually a serious malady. A few days' indisposition, or moderate sickness for a few days, is usually the extent of it in active people. At the extremes of life, infancy and advanced age, it is to be

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dreaded, but occasionally a strong and previously healthy adult is taken with it in a severe form, and will be prostrated for weeks with a most serious disease, the counterpart in all points of the malady as seen in the epidemic.

These cases have been met with, one or two in a season, then perhaps a season or two would pass without seeing one. Two years previous to the epidemic, the latter class of cases were more numerous than usual. One year previous, commencing in February, and running through the spring and summer, we had a much larger number of these severe and rebellious cases, thus leading up gradually as it were to the climax in the epidemic of the following year.

The water supply was of course at once suspected as being the cause. All drinking water is obtained from wells. These were cleaned out, and allowed to fill afresh. Some persons drinking boiled water only, and were attacked and died as promptly as any. One infant with a young healthy mother, having a plentiful supply of milk in the breasts, was nourished on this alone, and given only boiled water to drink. It was taken sick some weeks after commencing the boiled water, and died.

Among infants, improper feeding could be directly established as an exciting cause in many cases. Sometimes in older children the grossest imprudences of diet were committed immediately preceding an attack. It seemed impossible to impress on the minds of some parents, any idea of the importance of care in diet. In one case a child two years old, after recovering from three distinct attacts, at the fourth attack, a quantity of raw tomato was found in the passages, which the mother admitted having given it. This mother had been most carefully and repeatedly told what to feed her child on for the remainder of the season.

Another baby of eleven months, convalescing from dysentery, was fed a hearty meal of boiled cabbage, result-

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ing in a relapse, from which it was three months in recovering, and only escaped with its life, by the slightest margin. Those parents had also been carefully instructed as to the proper nourishment for this child, of which nature had provided an abundance in the breasts of the mother. These two cases are mentioned as flagrant examples of willful, improper feeding.

A very large number could be recalled where the children were allowed their fill of fruits and vegetables, while suffering from diarrhœa, and where the tender age of the child should have prohibited the use of such articles absolutely and at all times. On the other hand, in some families where all were adults, or at least of such an age as to render all wholesome articles of diet suitable, vegetables and fruits were so rigidly excluded from the table that many were afflicted with the disease from a want of these articles, and on the well members of these families being induced to partake of them, the disease stopped spreading among them. The fact has apparently been well established by observations in the British, as well as in our own army and navy during the late war, that the absence of vegetables and fruits in the diet, acts markedly in preparing the system to yield more readily to the dysenteric influence. Errors in diet were probably the immediate cause in a large number of cases, but these same causes are doubtless active every summer in the same locality where such an epidemic was never before known.

It is a well-known fact that dysentery occurs with greatest frequency where paludal fevers are most prevalent, and is intercurrent with those affections. In May, of 1889, we had an unprecedented rainfall. I am indebted to Mr. P. J. Bates of this city for meteorological statistics, from which was prepared the table that accompanied my report to the state board of health, concerning this epidemic, written

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by request of the secretary of that board, .10.63 inches, as previously mentioned.

On clear days the temperature was unusually high. Through June and July following, showers were of frequent occurrence, often many times a day. The earth was thus kept constantly wet, and when it was not raining the heat was most oppressive, all evaporation from the surface of the body being prevented by the humidity of the atmosphere. This had a very depressing effect, and caused one's physical condition to be much below the normal. When a shower would be precipitated, the temperature would fall many degrees in a few moments, this with the cold wind accompanying would check perspiration almost instantly, and throw an excessive amount of blood to the viscera. The nights also were as a rule unseasonably cold, and to these climatic causes I feel sure, was due our epidemic.

These changes of temperature invariably affected the sick unfavorably, and a supply of new cases was sure to follow a low temperature, and the sick had either made no improvement, or were worse. I had an excellent opportunity of observing the effects of such changes on my own person. Having a light attack of the disease myself, which lasted six weeks, I was invariably worse after a cold change, or a night ride, when it was invariably cool, so that I soon learned to wear a heavy overcoat, and warm wraps for all night riding, and also on cool days, which precautions proved of great advantage.

On this theory, my advice in the way of prophylaxis, was to protect the body by suitable clothing from these changes, altering the clothing to suit the temperature.

In young children when the weather was so oppressively hot, they were dressed in the lightest manner possible. In the morning a large tub was filled with water and placed in the sun; about two or three in the afternoon, when the heat

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usually becomes the most oppressive, the tub was placed in the shade, and the child dressed simply in a night gown, was allowed to get into it and play from thirty minutes to an hour, when it was taken out, rubbed down, and dressed in dry thin clothing. On cool days the bath was not allowed, and flannel clothing was worn next to the skin. The diet was looked after, that all fruits and vegetables should be fresh and in good condition, and all children of suitable age for such articles, and all adults, were allowed to use everything ordinarily wholesome, care being taken to avoid an over-ingestion of any kind of food. Care was also taken to insure good sleep at night. Persons carefully managed in this way escaped the disease entirely.

At the close of the epidemic, malarial fevers became the prevailing maladies.

The first case I met with occurred early in June, by the middle of the same month the frequency of the cases began to excite attention, and the epidemic was soon established. The last cases were seen late in October.

The disease was usually ushered in by pain in the abdomen, often occurring suddenly while the patient was previously in good health. Several evacuations of bowels would occur in rapid succession, with griping and tenesmus, patient sometimes fainting in water closet. The first passages inspected invariably contained blood, although the patient frequently asserted that there was none, their statements in this particular being very unreliable.

There would be from twenty to fifty evacuations in the twenty-four hours. Very soon nausea and vomiting would set in, which when fully developed was almost incessant. The patient continuing these efforts until almost exhausted, and on the verge of syncope, when vomiting would cease for a time from sheer exhaustion. As soon as sufficient strength was recovered, the retching and vomiting would

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begin again, and continue until exhaustion again put a temporary stop to it. When there was nothing in the stomach to be ejected, they would lay and gag constantly for hours.

The vomited matter consisted of whatever had been ingested, with a flaky substance varying in color from a light pea green to the chopped spinach. The darker the color, the more unfavorable the future of the case was likely to be. Blood was also present sometimes in the vomited matter, and was always a grave symptom.

The evacuations of the bowels were of the same character, the flaky green substance of the same shades as before mentioned in vomited matter, and of same prognostic value as to shades. Blood and mucus were always present, though not always continuous.

In some cases the passages would consist entirely of blood and mucus; this was always an unfavorable indication. In others they would be blood and pus, resembling the contents of an abscess; this form of discharge of itself was not so grave a symptom.

The temperature in most cases was slightly elevated for a few days, ranging from 100° to 102°. It would then gradually fall to normal or even below, and remain so until convalescence, or if the case terminated fatally, at approaching dissolution, it would rise to 102° or 103° and remain so until some time after death.

In others there would be but little elevation of temperature at the beginning, but it would gradually increase to 104° or 105° and be almost continuous, regardless of all efforts to reduce it. The hands and forearms would be cold to the elbows, sometimes extending up the arm to the shoulder; the legs and thighs, cold to the body. It was not an unusual occurrence to find the patient on the hottest days covered closely in bed with heavy clothing, the extremities wrapped in flannels, with hot irons or bottles of

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hot water placed all around them. The pulse in these cases was rapid, ranging from 100° to 150°, in one case it was never less than 120°. This patient died on the seventeenth day.

This rapid pulse was always a bad symptom, and was usually manifest from the commencement. In mild cases it was often not accelerated. The effects on the nervous system were marked, even in mild cases. In the severe, delirium was manifested, usually first at night, but soon continuing through the day as well, sometimes manifested by talking incoherently, mutterings, etc. At others it was active, requiring restraint to keep the patient in bed, constantly throwing the covers off and loudly demanding to be allowed to go to some specified place. This condition would give place to carphologia and subsultus tendinum with mutterings. Profuse perspiration was another prominent symptom, particularly at the approach of convalescence.

The passages would frequently improve in appearance, blood and mucus ceasing to appear, and the number of discharges diminish to two or three, and sometimes only one, in the twenty-four hours, and continue this way several days before death.

The frequency of the pulse and stools, and the amount of blood and mucus in the latter seemed to constitute a very reliable index to the gravity of the case, while delirium, carphologia and subsultus tendinum were, of course, unmistakable in their import.

I was constantly impressed with the marked resemblance these cases bore to the same disease in infants, as we are accustomed to meet with it every season. In fact there was nothing unusual observed in infants affected with it at this time.

There was a very marked depression of the nervous sys-

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tem in all severe, and even in many mild cases, and this was the immediate cause of death in most of my fatal cases. This nervous element closely resembled shock, due I presume to the intensity of malady. In no case was there marked tympanites, or tenderness on pressure in the abdomen, commensurate with the severity of the inflammation. There were no post-mortems.

Mild cases needed but little in the way of treatment beyond an occasional dose of salts or castor oil, with rest in bed and due attention to diet. In all cases fruits and vegetables were forbidden. Sweet milk, eggs, fresh meat, broths made from meat, cold bread, toast, crackers and gruel were allowed, as were also champagne, whisky and brandy.

In mild cases also, small doses of oil with opium or dover powder, paregoric, tincture of camphor, and among the old nurse women, teas made from dog fennel, smart weed, horse mint, rag weed, flux weed, rosin weed, black root, and in fact almost anything that came handy proved efficient, and those who did nothing got along quite as well.

In the severe cases, vomiting was incessant and incorrigible and greatly interfered with all therapeutic efforts, as well as alimentation. For this symptom hypodermics of morphine were the most efficient in the largest number of cases, but its effect was transient, lasting only while the patient was under its influence. In some cases it was impossible to use opium in any form, owing to its effect upon the kidneys, causing suppression of urine. Tincture iodine and carbolic acid, one drop in water, helped the vomiting in some cases. At times it was necessary to stop all attempts to give anything by the mouth, the stomach being given a complete rest for some hours. All medicines were given by enema or hypodermically, then commencing with milk and lime water in very small quantities, and frequently re-

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peated, the nourishment could be kept up, and a gradual return to medication by the mouth resumed for a time.

Everything was tried at one time or another that promised rationally to be of benefit.

It was hardly possible to treat any two cases alike, but as a general line of medication that seemed to benefit the largest number of cases in my hands, was at the commencement, and from time to time throughout the disease, whenever the amount of blood seemed to be increasing in the stools, or the patient not improving for a time, to give a full dose of salts or castor oil, followed by an emulsion, each tablespoonful of which contained ten drops of turpentine and one drachm of oil of sweet almonds. Into this at the bedside was put the opiate suitable for the case. To infants a teaspoonful of this emulsion was given, and to adults a tablespoonful. The green vomiting and stools were best met by a combination of alkalies and rhubarb. Quinine seemed indicated in most cases, either in tonic or antipyretic doses, and a mineral acid was frequently of benefit.

On the zymotic theory of the disease, antiseptics were freely used, given per orem, and by enema, flushing the colon, filling it, in fact filling the patient from both ends. By this method, listerine cinnamon water and boric acid solutions were used. Where the antiseptic was used in smaller quantities, the bichloride of mercury was tried. They were continued until their uselessness was clearly apparent.

In a certain class of cases, antiseptics combined with other treatment did well. In the same class of cases, the same treatment minus the antiseptics, did equally well. In the class of cases benefited by dog fennel, tea, etc., antiseptics alone did well. In the chamber, and bowl for receiving the vomit, were kept antiseptic solutions, and the discharges received directly into this from the patient. By

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this means, all odor was absent, and the rooms were kept fresh and pure.

As many as five and six patients, of all ages and both sexes, in the same house, and frequently in one room, were sometimes on hand at once, all vomiting or purging, or both, at the same time, rejecting all medicines, and loudly demanding immediate attention and relief. In such a room an hour or more would be consumed at each visit, before a degree of quietude could be obtained that would justify a thought of leaving, while the physician well knew that similar scenes were anxiously awaiting him at other homes. In a few cases convalescence did not progress favorably until a cautious return to fruits and vegetables was permitted. In these cases fresh buttermilk also was an advantage.

There were fifty-six deaths from dysentery in the city and immediate surrounding country. For this information I am indebted to our undertakers, Mr. Robert Dickson and Mr. A. F. Lange. Of my own cases the death rate was one in eleven, although one case should probably be excluded, as the patient, a woman near sixty years of age, had what was probably a malignant growth in some of the abdominal organs. She could retain scarcely any nourishment for weeks previous to the dysenteric attack, and her life was probably only slightly shortened by it. On later mature deliberation, I should, in the event of such another experience, be inclined to prohibit the use of ice and possibly cold water, and make use of such efforts as would induce free perspiration.

In closing, I also wish to mention the evil effects upon the community at such a time, of funerals held in public places, and conducted by lengthy discourses, emotional music, and showy street parades.

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DISCUSSION.

DR. J. P. MATTHEWS, CARLINVILLE:

Dr. Chapman's paper describes an epidemic that is fortunately of rare occurrence in the life of a physician. History mentions it in the time of Hippocrates, and Dr. Francis Adams' translation of the history of Herodotus speaks of its decimating the army of Xerxes while retreating through Thessaly. The first description of a scientific character was given probably by the Alexandrian Greeks.

The history of medicine occasionally describes epidemics of dysentery causing a fearful rate of mortality down through the ages, all of which seemed to differ but little from the one just described by Dr. Chapman.

Two epidemics of acute dysentery have occurred during my life as a practitioner of medicine, one while I was assistant surgeon of the One Hundred and Twenty-second Regiment of Illinois Volunteers, in the spring of 1863, and another while in private practice at Carlinville, Ill.

During both epidemics there was no question as to its communication from the sick through a contagium vivum, nor was there much room to doubt that it was both contagious and infectious.

In the early part of the summer of 1863 our regiment moved from Corinth, Miss., to a grove about a mile south of town, and shortly after our barracks were built and tents raised the epidemic of acute dysentery began. The sanguineous appearance of the trenches made for closets soon proved to the visiting surgeon or inspector the fearful extent of the epidemic, nor will it sound very poetical for me to say that at each morning sick call my steward, at my directions, issued the contents of a gallon bucket of the then as now favorite remedy, magnesia sulphate, followed, after watery stools were produced, by very large doses of opium and camphor. In private practice, in the autumn of 1864, it became epidemic in the township of Bird, about eight miles west of Carlinville, during which a mortality

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of about twenty-five in five miles of an area occurred in a rather thickly settled farming community. It did not reach town, but its infectious character was pretty thoroughly proven by its communication to farmhouses remote from those where the disease existed.

While there can be little doubt that a specific micro-organism will be found that finds in certain localities meteoric conditions favorable to its multiplication and spread, and while it is true that an exudate of a diphtheritic character, beginning in the follicles of the large intestine is found post-mortem, there is reason to doubt its being at all identical with that found upon the fauces or in the larynx of true diphtheria as some recent writers seem to think. The pseudo-membraneous character of the true malignant type bears the same relation to the simple inflammatory or sporadic type, seen more or less every year, that Asiatic cholera does to cholera morbus, and sight should not be lost of the fact that the characteristic difference deserves the greatest care and watchfulness on the part of the medical profession. Malignant dysentery is as destructive to life as Asiatic cholera, and requires as great care in handling it, while the deaths from the sporadic variety are nearly *nil*. Involving specifically the colon, it seldom passes above the cæcum. The glands of Lieberkuhn in the colon are always affected, while the patches of Peyer are unaffected.

The early congestion of the mucous surface of the colon soon becomes involved in the inflammatory process with the characteristic fibrinous deposits, made it clear, as early as the above dates, that the remedy that would deplete the congested mucous surface, and at the same time wash away the deposit, would theoretically—as it certainly does practically—give the greatest promise of relief. Based upon this promise a saturated solution of magnesia sulphate was invariably used, in large doses, till watery stools were produced, when opium in very large quantities was required to quiet pain. The magnesia sulphate was then decreased to a few grains hourly, to which a few drops of the aromatic sulphuric acid was added.

In young children castor oil and turpentine in an emulsion

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made with peppermint water to which a drachm of bismuth to the ounce was added, was sometimes found to be a necessity by being better born than the salt. My experience fully coincided with that of the late Professor Flint, who notes the extreme insusceptibility of opium to cases affected with acute dysentery. In some cases as high as three to five grains every hour were required.

DR. J. J. M. ANGEAR, CHICAGO:

There are many points in the paper of interest bringing out some facts that I have noticed in my practice. The first is with reference to the feeding with vegetables. It may be that it demands more discrimination and thought to tell *when* to and *when not* to allow the patient to eat vegetables. From army experience I know that we suffered a great deal from dysentery and diarrhœa together with scurvy; and when we had an abundance of fresh vegetables so that the scurvy began to disappear, the bowel troubles improved. I practiced for sixteen years in a malarial region, and found that those alvine discharges could not be controlled until pretty large doses of quinine were administered, and quinine was worth more than astringents or narcotics. I want to emphasize that particular point.

Another point is the importance of administering some diuretics, as the kidneys are always sluggish. It may not be the opium that checked the urine but the natural consequence of the disease. I have noticed that as soon as the kidneys perform their function well the discharges began to lessen and improve. The course of the urine seems to be turned into the bowels. I always administer more or less diuretics in connection with whatever medicine is being given in dysentery or diarrhœa.

Another point that was spoken of in the paper is of vital importance, and that is that in many of the cases the discharges were reduced to not more than one or two in twenty-four hours and apparently to the inexperienced eye the patient was doing well. I have been deceived many times in my younger professional days supposing that my patient was convalescing and would need but little medical attention, but to my surprise within

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twenty-four hours my patient was dead. Now, since I have been giving some attention to physiology and pathology I have learned this fact, that if we shut up a dog without food he will live about thirty-six days. If we feed that dog about the twenty-ninth or thirtieth day he will eat and apparently digest the food but he will die just the same as if he had not been fed on the thirty-sixth day. The reason is simply this, that the cells of which the body is composed have been starved, and while the animal as an animal has lived, a vast multitude of cells composing the body are already dead and those that are not yet dead are dying, and in the course of a few days the dog will die. It is important for us to bear this physiological and pathological fact in mind, and that in those children whom we have been treating, the discharges having diminished and the fever reduced and they appear to be doing well, you may depend upon it that death is rapping at the door, and you should not pronounce a child convalescent too soon.

DR. W. J. CHENOWETH, DECATUR:

I do not wish to discuss this paper, but simply to give a little of my experience during an epidemic which occurred in Decatur a number of years ago, at a time when we were losing about ten per cent. of our cases. Having occasion to go to Cincinnati I met with Dr. J. H. Tate, a prominent practicioner, and very naturally referred to the great mortality which attended the epidemic through which we were passing. He informed me that there was at that time an epidemic of flux in the city, but that the death rate was small in his practice. I learned from him that his habit was to give from twenty to thirty grains of calomel at a single dose, when first called to a case, and that the after treatment consisted of a few grains of Dover's powder. On my return to Decatur I adopted this treatment, and induced my partner, Dr. S. T. Trowbridge, to try it. From this time our loss did not exceed two per cent. I had no confidence in specifics, and but scant knowledge of germs, but gave the calomel emperically. The reduced mortality may have been owing to a natural subsidence of the virulence of the disease, or to the germicidal

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properties of the drug, but whatever was the cause it was so marked that I have since pursued the same course when called on to treat the disease.

DR. W. L. GOODELL, EFFINGHAM:

I wish to relate my experience in the treatment of twenty-seven cases of dysentery that came under my observation about five years ago, four miles from my home, in which I adhered closely to the old treatment of Dr. Stahl, of Grandville, and several others of that class. Along in the 50's and 60's these men told me that the flux was very prevalent, and about the first thing to do was to give a good dose of calomel, then after that a decoction of white oak bark and pulverized opium, with good judgment as to the diet. I adhered to that rule and the twenty-seven cases all recovered. I believe that is the only epidemic we have had since 1867.

DR. E. P. COOK, MENDOTA:

I know I can add very little to the therapeutics of dysentery. I do not believe that anything new has been presented in the discussion thus far. I was pleased with the careful statement of the local conditions by the author of the paper. The etiology of the troble is certainly one of intense interest to us. It seems to me the local conditions reported by the author was not exceptionally favorable to health, and that we stand in the face of a mystery as to what produced the epidemic. Others may have gotten the key to the epidemic of which I do not know. If so, I would like to hear some reference made to it.

We advance most in the direction of preventive medicine, and if there are any here who can add anything to enable us to get at a solution of the local conditions that produce the epidemic under consideration, we would like to hear from them. My personal observation has been limited to one epidemic which occurred in 1864, and which was similar to the one the author of the paper has described. We should study more carefully the local conditions, and these conditions were not clear to my mind at that time.

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DR. M. ROONEY, QUINCY:

I have never seen an epidemic of this disease, but I have met with cases in practice. Nothing has been said of the ipecac treatment. I have charge of the medical department of a hospital. We frequently get cases far advanced and the ipecac treatment seems to be very valuable, followed by a solution of sulphate of magnesia with aromatic sulphuric acid. Another point: We find hot water injections per rectum also very valuable, never failing to cure the cases by it with strict attention and care to the diet.

DR. H. W. CHAPMAN, WHITEHALL:

I shall occupy as little of your time as possible in closing the discussion. I tried to make myself understood with regard to suppression of urine by opium. There is not a text book with which I am familiar in which I can find anything on that subject. I am certain that opium will cause suppression of urine in a considerable number of cases, whether in health, or in disease, and I will ask those of you here, who have not been convinced of the fact, to notice for the future. Dr. Matthews' suggestion that possibly turpentine would do so, can not apply here, as it was carefully excluded in cases where this condition was produced by opium. A dose or two of opium would cause suppression of urine, sometimes for twenty-four hours. By the discontinuance of its use, the kidneys would act as usual until opium was given again, and probably the second time it was given a single dose would produce suppression. In cases of that kind, I repeated the experiment, on discontinuing the opium the kidneys would resume their function. On giving a dose of opium their action would stop. So there were cases in which as I stated, opium could not be used. I would say also that this experience is not limited to this epidemic. I have for years been troubled in my practice with the same suppression of urine, in the exhibition of opium, not only in cases of dysentery, but in others also.

Calomel has been suggested. Of course, in my paper I could not enumerate all the remedies that were used. I could

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not have read it in twenty minutes if I had. Calomel was given in large and small doses, and the patients seemed not benefited after taking it. In the same cases, after a short time had elapsed, it would be given again, followed by unfavorable symptoms, until it seemed best not to use it.

In regard to the causes of this epidemic, I will state that the conditions set forth in the paper were, in my judgment, not such as were conducive to health. The conditions were an unusual rainfall. It has been my experience that always in wet seasons health is not good; that there is more sickness during wet, than dry seasons. The sudden changes of temperature were distinctly alluded to, occurring many times a day, in which a person perspiring from every pore, in ten minutes would be cold and shivering from the change in temperature produced by wind and storm. The lower temperature would check perspiration. I have stated that in my judgment these were the causes of the epidemic, this I think, is the opinion of the best authors with whom I am familiar.

Ipecac was suggested, but not mentioned in the paper for the same reasons given concerning calomel. It is recommended by every author with whom I am familiar, to be given in large doses, and I gave it. I made my patients so sick, and produced such an amount of depression, and became so alarmed for their immediate welfare, that I did not care to try it again. One other physician in town started in very enthusiastically on a case with the ipecac treatment, and was certain he was going to bring the patient through with it because he had brought sporadic cases through. If any one has enthusiasm in meeting with an epidemic of dysentery, I feel sure that when he meets with it, his enthusiasm will be dampened, at least before he gets through.

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DIFFUSE CHRONIC INFLAMMATION OF THE BRAIN.

WILLIAM J. EDDY, M. D., SHELBYVILLE.

I feel considerable hesitancy in bringing this subject before this body, but I do it that I may be able to hear the views of those that have had to deal with similar conditions.

The diagnosis of such diseases is not easy, for the reason that we seldom have much as a basis for cause, and also that the train of symptoms differs with the different temperaments of the individuals, and the symptoms themselves are often vague, and in some instances misleading in the earlier stages.

It is not my province to enter into a lengthy discussion of this subject, but to first briefly outline and then pass to the history of cases that illustrate the points I wish to present.

Authorities give us six kinds of cerebral inflammations, namely: red, yellow and white softening, tubercular and syphilitic inflammation and sclerosis.

Red softening belongs to middle life, and is generally due to traumatism, pyæmic infection, or follows embolism or thrombus, is acute, has high fever, runs a rapid course, and generally terminates in an abcess.

Yellow softening is, properly speaking, only an altered condition of either the red or white varieties, the color being due either to altered blood pigment from the red or fine particles of fat within the meshes of the white. The white form is generally chronic and results from causes that tend

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to disturb the nutrition of the brain, and is more diffuse than the red, the symptoms are generally very obscure.

Tubercular inflammation of the brain may be either acute or chronic, but is generally secondary to tubercular meningitis, and bears the same train of symptoms. Syphilitic inflammation has a history of either acquired or hereditary syphilis. It is the most common of all the inflammatory diseases of this organ, and we are often prone to charge to it troubles that a more thorough examination and a careful test of anti-syphilitic treatment proves does not belong there, as my cases will show, even though we have no history of the disease, yet we know that this hydra-headed monster has so many disguises that we often, when in doubt, accomplish wonders by giving it the benefit of the doubt, coupled with a liberal supply of the iodides and mercury.

Cerebral sclerosis can hardly be denominated an inflammation, and yet, the proliferation of cells, as in other inflammatory conditions, allows it to have this place. Little is definitely known regarding the causes of it. It may accompany chronic cerebral congestion and changes in the walls of the capillary vessels. It may be developed in connection with epilepsy and insanity and different forms of paralysis, and is frequent in old age, though the diffuse form is most commonly observed in infancy.

The form of trouble that I wish to present is one in which the initial symptoms were very obscure, and in which the meninges were probably involved as well as the brain substance. It seemed rather to be a cross between tubercular inflammation of a very chronic variety and a low grade of white softening, with nothing definite as to which they belonged. In one case I had a post-mortem, and in the other two I did not. These three cases came directly under my observation, and they all present so many symptoms in com-

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mon, together with similar conditions to start with, that I am obliged to class all alike, yet they follow out no exact set of symptoms of any of our authorities.

They were all three old soldiers, all had severe chronic diarrhœa, one had spent six months in Libby and Bell Island prisons. Their ages ranged from forty-five to fifty-five. They were all apparently strong men. There was no history of tuberculosis, either hereditary or acquired; there was no syphilitic history and negative results obtained from such treatment. All had suffered for years from paroxysms of severe frontal and parietal pain in the head on any strained exertion. Neither had received any injury or had had any meningeal inflammation that was known of; there was no rise of temperature, no sugar or albumin in the urine; there was loss of memory in each case, loss of co-ordination in speech (if I may be allowed the term), and a more or less shuffling gait, toward the last with a disposition to wander off and a low form of delirium. There was no paralysis, sight and hearing were slightly effected, this most in the one still living; the duration from three to five years. Two are dead, and the other almost so, and is in the asylum.

Case 1. Mr. G. H., colored, aged 45, well developed and rather strong, a day laborer, good habits, had served in the army, sometimes was troubled with chronic diarrhœa contracted while in the service. Came under my notice in 1885, required but little treatment except for the diarrhœa and the pain in the head that he had severely at times and was on the increase. There was no history of tuberculosis or syphilis that I could obtain, but knowing the predisposition of the colored race to syphilis from their surroundings, I put him on the iodides, but without benefit. There were no convulsions, but he began to have spells of delirium that would last for days, and during that time he would wander off if not closely watched, and was lost once or twice for four

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or five days at a time. There was no fever, appetite fair, complained of nothing but the pain in the head. We succeeded in geting him into the soldiers' home, but he did not remain long, got out, wandered off, and was lost for three or four weeks and was found near Chicago; brought home and sent to the insane asylum at Kankakee, where he died shortly after, about ten months from the time his mind first began to wander. There was a gradual increase of the pain and delirium, but no other symptoms until coma came on, followed by death in a few days. There was no post-mortem.

Case 2. Mr. S., age 55, white, came under my care in 1888, an old soldier, had presistent chronic diarrhœa, but came to me for pain in the head together with some vertigo. Examination revealed nothing but a reduced system and very poor circulation from weakness of the heart-action. No rise of temperature, no sugar or albumin in urine, no tubercular or syphilitic history, treatment of various kinds was tried, but no good resulted from it, the pain increased, tonics improved the circulation, but the disturbance of the brain that I attributed to passive congestion did not improve but gradually increased; the mind failed, speech became disconnected, delirium with a disposition to wander off came on, and he was sent to an insane asylum about two years from the time I first saw him, where he now remains, with the report that he is no better but may die at any time.

Case 3. In this case the history is more complete, as I have the history for fifteen years furnished me, and I had a chance to observe him for the past five years, and treated during the latter part of his life.

Mr. A. B. W., age 45, a large, plethoric man, weighing 225 pounds, traveling salesman; always seemed in good health with the exception of severe paroxysms of frontal and parietal headache. Family history fair, father and one brother dead, did not know the cause of death in either case, but the

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brother died from a convulsion during a spell of sickness that had lasted about three weeks. No tubercular or syphilitic history, patient's habits good, had been a free smoker until four years previous, when he gave that up had two very healthy, rugged children; was an ex-soldier and had spent six months in Libby and Bell Island prisons, and was reduced from a man weighing 200 pounds on entering to one weighing only ninety on leaving; his worst lasting trouble from prison life was chronic diarrhœa that remained and gave him trouble all his life.

For the past fifteen years he suffered from the pain in the head that in some respect bore resemblance to sick headache and was so treated, it would pass off in a few hours and he would be entirely free from it for a while, when it would return on slight exertion; its most frequent time of appearance was on arising in the morning.

About four years previous, during one of the paroxysms of headache, he had two or three light convulsions but no paralysis following, and since then the pain was more severe and he would locate it over the anterior portion of the left parietal bone. For a year or more prior to his death his friends began to notice a change in his general bearing; from a man full of life and of a joyous turn he became dull and stupid, forgetful, and seemed to lose all desire for society, yet was cheerful with his family and conducted his business. It was not until April of 1891 that there was noticeable any change in his physical condition; he began to lose flesh, suffer more severely with his head, and there was noticeable at times a slight dragging of the feet. He continued his work until in May, when, through the persuasions of wife and friends, he asked for a vacation, that he might rest and regain his health. He had been under the hands of different physicians and had tried various lines of treatment, both regular and homœpathic, but without avail,

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among others Dr. J. H. Etheridge of Chicago examined him, and it was while under his charge that I was brought in direct connection with the case, four weeks before his death. I wish to state here that when Dr. Etheridge first examined the man he did not get anything of the history of the case, as the man's mind was so disturbed that he, while seeming perfectly sound, was not able to realize or remember anything, and when asked a question about himself would rarely ever give a correct answer. The Doctor thought from the history given him that the principal cause of his condition was defective secretions, and prescribed accordingly. This was about the last of June and he followed that line until August 18, when I was called in to examine the man and report his condition to Dr. Etheridge. I found the gentleman up and dressed and to all appearances in fair health, and in answer to my question as to how he was feeling, answered, quite well and thought he would be able to go on the road in a few days. His general appearance good, fairly well nourished, weighed 190. I examined him very carefully, getting most of the history from his wife as what he gave was wholy unreliable. I found that he had been losing flesh rapidly though his appetite was fair, he was able to be around all the time, but once a few days previous, while walking on the street, his legs gave way and he suddenly dropped on his knees, but on being helped up was able to go on again, and that sometimes in reaching for things he would suddenly drop them, but be able the next moment to pick them up and on endeavoring to walk up stairs he would frequently sink down on his knees on the steps. His memory was of little or no good, for he would answer a question and in two minutes forget all about his answer, and if asked again would give an altogether different answer; not restless or nervous; would answer all questions, but would say nothing only as the question called it from

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him; complained of no pain except his head, and that would come and go; pulse weak and variable, 72 to 96, depending on exertion; a slight hacking cough respiration easy and natural; bowels slightly constipated, full and a little tympanitic; slight tenderness over region of liver and stomach; spleen of normal size; sight and hearing good; sometimes had a feeling as though an arm was going to sleep but it would pass off soon and perhaps return in the other arm. Reflexes normal; no tenderness along the spine; at times he seemed dull, but would talk a little and laugh and went about the house and yard freely and on the street some. Auscultation showed some mucous rales over apex of right lung; a slight murmur at the base of heart, with the muscular sound almost entirely lost; the murmur resembled an anæmic murmur more than anything else.

Urine of natural quantity and color, no sugar or albumin, specific gravity 1016 slightly acid. I refrained from making a positive diagnosis, but told the family that I considered the case very serious, as there was evidently a brain and perhaps a heart lesion. I could get no cause whatever for the trouble. There was not the slightest evidence of its being specific, for his children were very healthy, but on the advice of Dr. Etheridge, after reading my history of the case, I put him on the iodides of potassium and mercury. I carried the potassium iodide until he took 120 grains daily and 2½ grains of proto iodide of mercury, but no good was seen to result. After carefully watching the case my diagnosis was chronic inflammation of the brain, and involving the maninges together with probably a fatty infiltration of the muscles of the heart, or rather a fatty degeneration. This conclusion was reached from the fact that his mind began to wander and he was constantly lost, a low species of delirium, not the result of fever, and frequently in getting up from a chair or

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couch he would fall on the floor and have to be helped up. Whatever caused exertion would rapidly increase the heart's action. It soon became necessary for him to keep his bed. His treatment was the iodide, as before mentioned, with bromide, etc., of potassium to relieve pain in the head, together with a light but highly nutritious diet. His delirium continued, and about a week after I first saw him he was troubled with precipitate vomiting. It would come without a moment's warning from some slight move, and after throwing up a time or two would feel no more sickness until some move brought it on again. By the end of the second week he had lost control of the bladder, or rather lost the knowledge of controlling it, and would pass water in the bed when the bladder was full, unless his attention was called to the fact that he ought to pass it, when he would do it without any trouble. His reasoning faculty seemed to be destroyed, but when told how to do he could do it. Bowels slightly constipated, but would move without much trouble. Ten days before death his breathing became labored and irregular, with another spell of the precipitate vomiting, and this was accompanied by what seemed severe shock on the system. Small, thready, irregular pulse, profound prostration, followed by coma, from which he could be roused with difficulty; sight and hearing still good; abdomen retracted; no albumin in urine; temperature normal, except once following a large blister to the nape of neck. Breathing was so irregular that frequently one-half to three-quarters of a minute would elapse between respirations; they were heavy and sterterous. Whisky, digitalis and ammonia would arouse him a little, but not lasting. There was slight twitching of the muscles, principally of the arms. Under no treatment did he do any good, but steadily failed until death occurred ten days after the irregular breathing and coma came on.

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Autopsy.—An examination of the brain was all that could be obtained. On opening the skull we found no excess of fluid around or in the brain, but found the dura mater arachnoid and pia mater tightly adhering to the brain surface over the entire central portion of both hemispheres directly beneath the posterior frontal and anterior portions of both parietal bones almost as thick as thin leather, and studded with numerous little warty excrescences on the external surface, and this same condition was found on a corresponding surface on the underneath side or base. Membrane thickened and studded alike and adherent. Directly under each one of these little granulations, which were harder than the surrounding tissue, and varied in size from a millet seed to that of a split pea, were numerous thread-like fibres extending into the gray matter. The space covered by this condition was about two inches in diameter and blended into the healthy brain tissue. The diseased portion extended directly through the brain from the superior to the inferior part, the posterior part of the diseased tract, coming just anterior to the medulla and cerebellum, though I think from all appearances the cerebellum was slightly involved. There was a perceptible change in the character of the gray matter through the diseased tract, more friable than natural, and of a muddy gray, with no pink tint about it. Near the middle of the parietal portion on the left side, which was at the posterior part of the lesion, was an aneurismal condition of an agglutinated mass of blood vessels in the thickened membranes; this space was about the size of a silver 5-cent piece. There were no cheesy deposits either in the membranes of brain substance. All the rest of the brain and membranes seemed perfectly normal, the diseased tract occupying about one-quarter of the entire brain. The brain and membranes weighed 53½ ounces. This diseased tract

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did not seem to be softened, but here was a condition that had been going on for years in all probability, and yet allowed the man to attend to his work until within five months of death. Whether the other two cases were exactly like this one I can not say; their general symptoms were the same, with the same causes acting on the system, one other dying in almost the same way, and the other going down similarly. They are cases that are hard to diagnose, unfavorable to prognose, and unyielding to treatment, and yet with seemingly but little the matter, the initial symptoms are misleading.

DISCUSSION.

Dr. Frank P. Norbury Jacksonville:

I have been very much interested in the Doctor's paper, because the subject of chronic inflammations of the brain is one that requires a great deal of study and observation in order to make an accurate diagnosis. The symptomatology has been very well detailed in the paper excepting the Doctor has overlooked one of the most important diagnostic points, and that is optic neuritis. It is a point which I rely on very much, and one without which we find it hard to make a diagnosis when the other symptoms are lacking. And further, in the case of which he has spoken, the lesions are those peculiar to chronic inflammation, namely, that in case we find one lobe involved and a portion of another, we find the corresponding lobe is also involved, and this is especially so in cases not due to traumatic causes. In traumatic cases the lesion is local and generally the seat in which the injury was received, although not necessarily so.

The pathology of chronic inflammation of the brain is very interesting, and my experience in that line has been confined principally to the insane and the feeble-minded. In the feeble-minded we find a condition of chronic inflammation where sclerosis is the condition found, not a general but a miliary

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sclerosis, and it might be said that in cases of children that brain injuries which would be trifling in the adult are serious to a child, and the results can not be estimated and can only be found by a post-mortem examination. It is sometimes astonishing in a case in which the injury has been apparently slight to find that in due time a state of feeble-mindedness results and the case going on to death. The post-mortem examination in such a case will reveal very diffuse sclerosis confined simply to certain regions, especially the frontal and parietal regions. In the insane we find a state of chronic inflammation of the brain particularly in cases of general paralysis. We find first that one convolution is involved, then another, and gradually the inflammation spreads until the whole brain becomes involved with the exception of the occipital gyri which are very seldom implicated. The fronto-parietal region is most affected in general paralysis.

The lesions found in these cases are variable, from just an injection of the cortical layer to profound degeneration. The lesion no doubt is inflammatory, due to the involvement of the lymph channels. That is the commencement of the lesion, and the spider-cells, in due time involve the nerve-cells, and one by one undergo degeneration until we find general paralysis. In ordinary chronic inflammation of the brain there are five different lesions, namely; simply an injection of the cortical layer, injection involving the white and grey matter, of red softening, then abscess, and then gangrenous degeneration. I have seen quite a number of cases where there was just the red softening and others in which there was abscess with quite profound gangrenous degeneration. Abscess of the brain is a chronic inflammation, although some are disposed to classify it as an acute inflammation. It depends greatly upon the nature of the abscess and upon its duration. I have recently seen a case of abscess of the brain with a history extending for a period of three years. The diagnosis was not abscess. It was a case in which the cerebellum was involved, and on post-mortem we discovered abscess of the tempero-sphenoidal lobe, also abscess in the cerebellum. This case was especially interesting, the result of a traumatic injury dating back some time.

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DR. R. DEWEY, KANKAKEE:

I do not know that I can contribute much to the very clear statement given us of these cases. In listening to them they are such as we meet with in the insane hospital quite commonly. Dr. Eddy has described in his third case one which appears like a case of general paralysis or paresis of the insane, though not uncomplicated, having some extensive involvement of the brain, or at least more than is commonly met with, and it is interesting to learn that the diseased process extended through the brain. An inflammation of the brain which, above all others is common and increasingly so and is attracting attention, is what is known as inflammation of the cortical substance which leads to the condition known as general paralysis. This condition, with comparatively few exceptions, is now believed by the authorities writing upon it, to be due to syphilitic degeneration. It can be found in about three-quarters of the cases almost with certainty. In the other cases it is reasonable to suppose it exists from the fact that the previous history is not obtained, or that the facts are often concealed with reference to that condition.

A cortical inflammation produces such symptoms as Dr. Eddy has described, affections of speech, destruction of memory and many motor manifestations, sometimes limited convulsions, sometimes hemiplegic manifestations or paralysis involving both sides. The Doctor spoke of using iodide of potassium with some hope of benefit. Cases in which the brain becomes involved through syphilitic disease are seldom amenable to specifics, which we find often so useful in the treatment of secondary syphilis, especially where cortical inflammation has been set up as a result of it. There appears to be as yet no practical means of combating this disease. It is from its inception a fatal disease and there is scarcely an authenticated case of permanent recovery on record; the administration of the mercurial iodides may at times have a palliative effect, but it is not to be expected that they can have a curative effect.

DR. W. J. EDDY:

There is only one point that I wish to take up, and that is I did not make an examination with the ophthalmoscope. I did

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not have a chance to make it. I could have made it in the first patient if I had thought it necessary at the time. In the second patient I did not have a chance to make even an examination to find out whether there was any optic neuritis. In the third case there was slight optic neuritis and slight disturbance of hearing, but in the other two cases sight and hearing were good, although there might have been some symptoms of optic neuritis.

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INFANTILE PARALYSIS.

D. R. BROWER, M. D., CHICAGO.

Polio-Myelitis Anterior Acuta, Essential Paralysis of Infancy, Acute Trophic Paralysis of Childhood, is an affection of the spinal cord characterized by a sudden febrile onset, oftentimes with general convulsions and a paralysis of variable distribution, with a rapid atrophy of the paralyzed muscles, and an absence of sensory disturbance and of disorder in the functions of the rectum and bladder.

Its causation is involved in mystery; while it does sometimes occur in adults, yet it is essentially a disease of infancy, cases occurring frequently between the ages of six months and four years. There does not seem to be any well marked heredity, but it has an etiological relation to the seasons of the year, occurring most frequently in the summer months. Dr. Sinkler, of Philadelphia, in an examination of a great many cases, determined that four-fifths of the cases occurred during the hot months. Traumatic influences have been supposed by some to have an important causal relation. The acute febrile affections not infrequently have preceded the development of this disease. There is no proof that the disease bears any relation to the processes of dentition. The rapid functional development of the nervous system between the periods of life in which it has its greatest frequency, having, probably, more to do with its development at this time than any physiological process of the body.

Symptoms.—The clinical history of the affection divides

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itself into four periods: First, the period of invasion, which lasts from a few hours to a week; second, a stationary period, which lasts for a week or month; third, a stage of regression of paralytic phenomena, lasting from one to six months, and fourth, a chronic stage of an indefinite duration. The period of invasion begins usually with febrile excitement, the temperature reaches 103° or 104°, and sometimes 105°. Convulsions occasionally attend the onset, especially in young children; there is more or less pain in the back; vomiting and diarrhœa are not infrequent accompaniments, indeed this onset presents constitutional disturbances very much like the ordinary febriculæ of childhood, and I know of no means by which its differentiation can certainly be established. I think if we are called to see a patient in this stage of the disease we will very rarely, if ever, apprehend the cause of the constitutional symptoms, but in a day or two the child will be found to be paralyzed in some muscles or groups of muscles. This paralysis is always rapidly developed. Only a part of a limb may be affected, or there may be paralysis in both arms, both legs, or a leg and one arm.

The amount of paralysis found to be present in this, the second stage of the disease, always reaches its maximum almost immediately, it possesses no progressive character. The sensibility is almost entirely undisturbed throughout the whole progress of the disease; at the very onset the patient may complain of pains, but these painful symptoms are of very short duration. Reflex function, superficial and deep, is abolished in all the muscles that are paralyzed. The functions of the bladder and rectum usually escape involvement, except during the first few days there may be trouble with both these organs, but whatever disturbance there is in these functions after a few days disappears.

After a certain time the period of regression begins,

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during which the paralysis disappears, except from certain parts, in which atrophy occurs. There are certain cases in which recovery may be complete, and it has been proposed to call these cases temporary spinal paralysis, but as a rule a certain number of muscles undergo very rapid atrophy.

The temperature of the paralyzed limbs is lower than the corresponding sound one, the difference usually being several degrees. The sensibility of the skin of the paralyzed limbs is not impaired. These atrophied muscles will not respond, as a rule, to faradic electricity, but usually do respond to interrupted galvanic currents of sufficient degree of intensity. During this period of atrophy there is arrest of development in the osseous system, so that the limb gradually becomes shorter than its fellow, and the difference in size increases with the amount of general growth, hence this difference is greater the younger the patient at the onset of the disease. There is also, during this stage, a great tendency to the occurrence of permanent shortening of the muscles and consequent displacement of the parts to which they are attached; deformities are thus produced. Certain muscles of the lower extremities suffer more frequently than others with permanent paralysis, and of these the antero-external group of the leg, the long extensor of the toes, the tibialis anticus, the superficial extensor of the great toe, and the long and short perinei are those most commonly affected. When the upper extremity is the seat of paralysis the extensor muscles of the hand are those most frequently paralyzed. Bed sores or atrophic ulcerations of the skin are exceedingly rare. Relapses are very rare, and second attacks are almost unknown, but a single instance of this kind has come under my observation. Occasionally, however, the disease occurring in childhood seems to lay the foundation for the development of other spinal affections later in life; lateral sclerosis, posterior spinal sclerosis and

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progressive muscular atrophy occasionally follow in the adult period.

Pathology.—This disease is due to an inflammation that has its beginning either in the interstitial tissue or in the parenchymatous tissue of the anterior horns of the spinal cord, and either as a consequence of the essential parenchymatous inflammation or as a consequence of this interstitial inflammation, there is destruction of the cells of the anterior horns of the spinal cord, and these cells being motor and trophic in function, their destruction results in wasting and paralysis. In some very severe cases there is slight local meningitis. The original disturbance of function being very much greater than the amount of degeneration that has been produced results in the clinical fact that the paralysis immediately following the onset is very much greater than that which is found to be present after a few days. The probability is that this inflammatory disturbance has its origin in the presence in the blood of some pathological germs.

Diagnosis.—As already stated, it is almost impossible to make a diagnosis in childhood of the invasion period; the differentiation of the paralysis depends upon the fact that the atrophy is rapid, that the temperature of the limb is below normal, that there are no sensory disturbances, and the bladder and rectum perform their functions normally.

Prognosis.—Occasionally children die in the acute onset, doubtless without the precise cause of death being determined; beyond this there is no danger to life. The prognosis as to recovery is to be based upon the condition of the paralyzed muscles; if the muscles have not lost their electrical irritability, then there is hope of recovery to a greater or less extent, but if the muscles have lost their electrical contractility then the prognosis as to recovery is absolutely unfavorable.

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Treatment.—The treatment of the acute stage of the disease consists in the administration of antipyretics—antipyrin, bromide of sodium, salicylate of sodium and ergot—if the disease can be recognized in this stage. When the acute stage is over, then tonics are indicated; iron, quinine and strychnia in the beginning, cautiously. In some cases cod liver oil and syrup of phosphites are extremely useful. The most important agent in the treatment of this affection is electricity, and the constant galvanic current should be used as soon as the fever has subsided, and should be made to pass through the seat of the lesion in the cord. The electrodes used should be large and the current should be mild and its duration should be five to ten minutes. At a later period of the disease, when atrophy of the muscles has set in, the interrupted galvanic current should be used to the paralyzed muscles of the least strength that will produce muscular response, and each paralyzed muscle or each group of muscles should be made to respond to this electrical stimulus not more than once or twice at each seance. As the muscles improve in tonus less strength of current will be necessary, and after a time the muscles respond to the faradic stimulation.

The electricity should be applied by the physician in person; much of the want of success in the treatment of this disease is due to the non-observance of this rule. It is a common experience for me to be consulted by the friends of these patients and when I advise the use of electricity, to be told that they have been using it and it has been of no value, and upon further investigation find that they have been themselves applying the current from a faradic battery, that was incapable of producing the slightest muscular reaction. It is the rule that the faradic current will not produce muscular response, hence its use under such circumstances even by the physician is useless.

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Along with electricity there should be used massage of the paralyzed limbs, and if the nutrition of the muscles does not improve under the stimulus of electricity and massage, then stimulating applications may be made to the surface of the limb, and for this purpose we prefer to use the capsicum plaster; placing around the paralyzed limbs strips of plaster about from one-half to three-fourths of an inch in diameter, which are to be worn for two or three days and then renewed, and if after reasonable space of time the limbs do not improve under this treatment, then I advise the use of deep injections of strychnia, preferring the nitrate of strychnia as less irritating, and using full dose, and giving one injection every day.

This treatment must be persisted in for months, even though but little, if any, improvement is at first noticed, but even the most unpromising cases will occasionally yield to this treatment if perseveringly pursued. The occurrence of deformities will require appropriate surgical treatment, but should not cause us to stop the use of these remedial measures. During the progress of this treatment the child should be encouraged in every possible way to use the paralyzed muscles, and of course every possible attention should be given to the hygiene of the patient, for that condition of living that results in the best general vigor will be of the most service in correcting this special disturbance of nutrition.

DISCUSSION.

DR. J. W. EDDY, SHELBYVILLE:

The subject of infantile paralysis is one that is not very satisfactory to the country practitioner. It has been my misfortune to meet a few cases of it, and while deaths are rare, I had one case in which death occurred about the fourth or fifth day.

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I have two or three more cases that I see every day or two that are partially paralyzed yet. In regard to the cause Dr. Brower has said there seems to be nothing that we can attribute the disease directly to, although some authorities maintain that the chilling of the body during the hot months while perspiring freely, will bring about this trouble by disturbing the nutrition of the cord through the circulation. Whether that is the case I cannot say. I have never followed it up enough to know. We have to deal with these cases and the initial symptoms are often alarming, and we frequently make a mistake. I have twice to my personal knowledge made a mistake, thinking I had some one of the eruptive fevers coming on. About the second or third day I had the chagrin to see part of one side and arm paralyzed, and shortly thereafter there was a slight touch of it in the other limb.

As regards giving a prognosis when we meet with a case of this kind, I tell my patients distinctly that I have very little hopes of restoring that particular set of muscles or limb to its natural function. But in the country people desire to have a positive opinion, and what are you going to do? The friends must know whether you are going to cure that child or not.

In one of the first cases I had lost, I told the folks that the child would get well, but shortly after the paralysis developed the child died. Since then I have been cautious in giving a prognosis.

As for the pathology of the condition, I do not think anybody is thoroughly prepared to discuss it, considering the different views that are taken in regard to it. Dr. Brower has given us as clear an illustration of that as any one authority on the subject.

In the treatment we have various methods, and yet it is a fact that no one has a specific for it. The treatment, as Dr. Brower has said, in the beginning consists of antipyretics. I have used ergot in the primary stage in one case with, I think, some benefit, but possibly it was like one gentleman said awhile ago in speaking of ergot, that the symptoms passed off and that my benefit from the use of the drug was only imaginary.

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Dr. Brower has referred to electricity, and you all know how that is applied. That is one point I am glad was brought out by the doctor in his paper, and it is a point that every practitioner that has to deal with these cases ought to lay plainly before patients, that they can not expect any good results from electricity if they apply it themselves. The same thing is applicable to all cases in which electricity is used. If you instruct them to use a galvanic battery, they will bring it back to you and tell you that it does not work. They do not apply the electricity constantly and regularly; they do not watch the effects of it, and electricity unless properly applied does more harm than good. Massage is another thing that has been spoken of. It is well in using that to allow the person to use some oily substance at the same time. I frequently prescribe pure cod liver oil to be used on the surface as an inunction. It brings to their mind the thought that they are doing something. If you stroke the limb with the bare hand it amounts to nothing, but if you give them something to do which is harmless it may help nutrition. That is one thing you can get them to do.

As regards the capsicum plasters, I have not tried them. I have tried the injection of nitrate of strychnine along with the course of treatment with only varying success. If the limbs respond to the electric current we expect some good. It is my experience with the few cases I have had that we receive no benefit whatever either from injections, rubbing or anything else in some sets of muscles. I have two or three cases under my care now. In one there is almost complete paralysis of the left arm, so that the boy will not be able to get any good from this treatment. He is able to contract his fingers a little bit, but to straighten them out he cannot. The treatment must be persisted in to get benefit, and patients must be made to realize that their case is unfavorable from the start, and that they must follow the directions of the physician in regard to the treatment.

DR. J. H. COULTER, CHICAGO:

I would like to ask the author of the paper if there is anything possible in the way of prophylaxis for atrophy of the muscular tissue.

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A MEMBER:

I would also like to ask the author whether the application of the forceps is ever the cause of infantile paralysis. The reason I ask the question is this: I delivered a child with forceps, and in about two weeks thereafter infantile paralysis set in. I got blamed for producing the paralysis by the use of the forceps.

DR. D. R. BROWER:

Before answering the questions that have been asked I wish to say that my object in presenting this paper was to emphasize the importance of the fact that we are not doing for these cases as much as we ought to do. If we did more our results would be better. I think it is because the profession at large fail to recognize the value of electricity. When this disease has reached the chronic stage, it is not always possible to do anything for it. From personal experience with cases, I know a great deal more can be done for them than is usually done. I know that some cases at least are curable in the full sense of that word by the use of electricity and the other points of treatment which I have suggested. The trouble is physicians themselves do not properly appreciate the value of electricity and the method of its application. As I suggested in the paper, the electricity must be applied by the physician himself. The average layman knows no more about the use of electricity than he does about strychnia, ergot, or anything else in therapeutics.

With reference to the question of Dr. Coulter, I do not think it is possible, at present at least, to prevent atrophy of the muscular tissue, because it is one of the early symptoms. It comes on immediately, and just as we find the limb paralyzed so in a few days we will find atrophy. I know of no treatment between the time of recognition of the paralysis and the occurrence of the atrophy that would be in the nature of a prophylactic.

Regarding the question asked by the other gentleman, I answer that the forceps could not have had anything to do with the development of infantile paralysis in his case. It is a disease of the spinal cord, the etiology of which we know little or nothing about. It is localized in its extent, and I do not believe that the application of the forceps could have anything to do in producing a localized inflammation in the anterior horns of the spinal cord.

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OXYGEN INHALATIONS IN RESPIRATORY AFFECTIONS.

N. S. DAVIS, JR., A. M., M. D.*

The recent report in the *British Medical Journal* of numerous cases of respiratory diseases treated by oxygen inhalations has prompted me to record a few observations of my own, and to point out the mode of action and limitations of the remedy.

The first case of respiratory disease in which I saw oxygen used was one of pneumonia, in the practice of a fellow physician with whom I was consulting. The circumstances under which the disease developed were unfortunate for recovery. The patient was a woman, twenty-four or twenty-five years old, in good health but pregnant and near full term. She suffered from bronchitis for two or three days before the pneumonia developed. Simultaneously with its onset she was delivered of a child that lived only a few hours. One lung was rapidly and extensively involved. Respiration was also impeded by the primary bronchitis. When she was seen by me she was unconscious, her skin was cyanotic, cold and clammy. Her respiration was very rapid and shallow. Her chest was filled with the coarse, moist rales of pulmonary œdema. Her pulse was small, soft and very quick. Her heart sounds were feeble. She was still able to swallow what was put in her mouth. The case seemed a hopeless one. I thought she could not live another twelve hours. Her physician suggested the use of oxygen, and I urged that it be tried. Up to that

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time I had only used it in a few cases of general diseases, such as mild uremia and anemia. In these cases I had obtained no appreciable results from it, but for respiratory obstruction it seemed especially indicated. When I saw the patient six or eight hours later I was greatly surprised at the improvement. She was conscious, her lips and skin had regained their normal color, the latter was warm, even feverish. Her pulse was full, slower, but still soft. The change was as great and almost as suddenly wrought as that we sometimes see when intubation or tracheotomy is performed in children who are almost choked by diphtheritic membrane. The patient maintained the same improved condition, though she did not improve more for forty-eight hours, and then gradually grew weaker and died. The impression which this case made upon me was a strong one. Although the result of the illness was fatal, I could not but anticipate that in other cases life might be maintained by oxygen inhalations long enough for nature to effect resolution of the pneumonia, and I determined to test the treatment in other cases. The oxygen was administered very freely.

The next case upon which I tried it was one of cardiac weakness, due to fatty infiltration and degeneration. During the three months prior to her death the patient was seen by me at my office several times at considerable intervals. She was about sixty years of age and abnormally obese. When first seen she complained of shortness of breath and consequent inability to walk far or to work. The slightest exertion made her moderately dyspnœic. Her lips and cheeks, however, were normally red, though the vessels were unusually turgid. Her pulse was small, soft and irregular. The apex beat of her heart could be neither seen nor felt. The organ could not be satisfactorily outlined because of the thickness of her chest wall. No mur-

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murs were audible, but the heart beats were irregular and the first sound at the apex was feeble. She improved for a time, while she used digitalis and strychnia. When I saw her next she was in much the same condition, but her feet were slightly œdematous. As often as she was placed upon treatment for the cardiac weakness she improved, but when treatment was discontinued she rapidly became worse than before. During the last two weeks of her life cardiac tonics seemed of no avail. Oedema and dyspnœa increased. The latter was largely due to passive engorgement of her lungs, but in part to superimposed bronchitis. It prevented sleep or rest. She was moderately but increasingly cyanotic. Oxygen was now administered freely, as much as from one-half to one gallon every half or three-quarters of an hour. She felt much relief after each inhalation and succeeded often in sleeping for twenty or thirty minutes at a time. Her pulse did not, however, change in character. After three days of use the oxygen failed to add to her comfort. She rapidly lost strength and died four days after the oxygen inhalations were begun. In this case the oxygen caused no marked change in the appearance or physical condition of the patient, although for many hours it contributed much to her comfort.

At a printing-house fire several firemen were exposed to the irritating fumes of hydrochloric acid. If I remember rightly, one was immediately killed by its inhalation and several were severely injured. The patient seen by me was under the immediate care of Dr. J. D. Kales. He had been ill for thirty-six hours. Immediately after inhaling the noxious gas a violent, acute bronchitis developed, which was rapidly followed by œdema. I saw him in the evening and found him strongly cyanotic, very dyspnœic, restless and anxious. His pulse was moderately full, soft, and about 110. It had been smaller and quicker earlier in the day.

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He had been expectorating a large amount of thin, serous fluid. His respirations were quick and shallow. His chest was filled with coarse, moist rales and piping sounds. Coughing occurred often. His urine was scant. He had been taking liquid food freely. At a consultation earlier in the day it was concluded that there was no hope of his recovery. As he had not lost ground in the preceding four or five hours, we hoped that the tide had turned in his favor. The case seemed one for which oxygen was especially indicated. The gas was procured, and at once contributed much to his comfort. He remained critically ill for another thirty-six hours, but finally made a perfect recovery. He was at first as much affected as either of his comrades who escaped immediate death. I am told that two of them remained in a very precarious condition for a week or more, but improved rapidly when oxygen was administered to them.

For two cases of acute bronchiolitis, with much cyanosis and cardiac weakness, occurring in the course of attacks of influenza, I prescribed oxygen. Improvement was noticeable at once; first, in the comfort of the patient, and, a few hours later, in freer and deeper respiration. These patients were forty-five and fifty years of age, respectively, and were weak because of the prostration which the influenza caused, as well as because of the unusual severity of the bronchitis.

In another fatal case of pneumonia, occurring in the practice of Dr. Burwash, of this city, I observed the effects of oxygen inhalations. When I was called to the patient she was in an extremely critical condition. She was twenty-five or twenty-six years old, and was in fairly good health when attacked by her last illness. She had been sick for ten days, or a little longer, when I first saw her. Her temperature was unusually high, at times 105.5° to

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106°. She was unconscious. Her rectum and bladder emptied themselves involuntarily. Her pulse was small, and about 120 per minute. Her respirations were 45. See was not cyanotic. Her skin was hot, and slightly moist. She swallowed what was placed in her mouth. The right lung had been extensively involved by the solidified exudate of croupous pneumonia. Over the area that had been dull there had developed during the preceding few hours increased resonance, as so often happens when resolution begins. Her breathing was a trifle slower than it had been earlier in the day. We hoped that resolution had begun. The next evening Dr. Burwash reported that the temperature had not fallen below 103½, and had again risen to 105. There was no change in her appearance. Her pulse was smaller and quicker than the night before. On examination, I found the right side of the chest quite resonant, and filled with moist rales and less consonant respiratory sounds than the night before, but the lower part of the left lung was firmly consolidated. Death occurred thirty-six hours later. In this case oxygen was used so soon as pneumonia appeared. It was given freely and persistently. While seen by me, the only noticeable effect of the agent was a better oxygenation of the blood than is usual in such severe cases, as was evidenced by the color of her mucous membranes, flushed appearance and heat of her skin.

To a few cases of pulmonary consumption, in different stages of the disease, I have administered oxygen. No noticeable effect was produced by it, except when the consolidation of the lungs was rapidly extending because of sub-acute pneumonia. The breathing was then temporarily slowed, the pulse made fuller, and a feeling of somewhat greater well-being was created.

Oxygen does not modify structural changes in the lungs and bronchi, but relieves the cyanosis which they

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may produce. This is quite evident from the cases that I have described, as well as from those reported by others. It has been demonstrated that no more oxygen can be taken up by the blood when it is breathed in its purity than when diluted as it is in air. This is due to its being in the blood in chemical union with hemoglobin. The apparently marvelous effects which its inhalation produces in some cases of cyanosis are due to the presence of a larger volume of oxygen in the small amount of functionally active lung, and, therefore, the possibility of a larger amount of hemoglobin becoming oxidized by it. In other words, the amount of functionally active lung tissue is greatly diminished and therefore the blood, though greedy for oxygen, can not be satisfied unless it is introduced into this small space in concentrated form. Oxygen relieves cyanosis i. e. oxidizes again reduced hemoglobin. The relief which it affords is often temporary, for if œdema or other changes that diminish the air space in the lungs progress, a point may be reached where cyanosis is produced notwithstanding oxygen inhalations. It is noticeable that oxygen affords the greatest relief to acute cyanosis. It is a well-known fact that chronic pulmonary lesions which destroy the lungs may involve a much larger proportion without producing dyspnœa than acute. This is due to gradual habituation of the system to slower or imperfect tissue changes, and there usually occurs simultaneously a destruction of red blood cells. As life ebbs from a consumptive, though respiration is extremely shallow and the chest is filled with the coarse rales of œdema, the patient's lips are only ashen, but those of a pneumonic patient, under similar conditions of respiratory obstruction, would be purplish, and the distress of dyspnœa much more keenly felt.

Less relief is also obtained by oxygen inhalations when the lungs are filled with venous blood, because of an

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obstruction to its escape from them into the heart, such as a heart disease will cause. The blood moves so slowly through the turgid vessels that only a small volume can be aerated, no matter whether oxygen is inhaled pure or diluted.

Briefly, it can be said that the indication for oxygen inhalation in respiratory affections is cyanosis. It can be expected to give prompt and very great relief in acute dyspnœa with cyanosis, such as often accompanies asthma, acute capillary bronchitis, broncho-pneumonia, croupous pneumonia, œdema of the lungs, or pneumo-thorax. Usually, œdema of the lungs develops at a time when permanent relief is impossible, as the patient is already too much enfeebled to combat the primary malady, but the best results can be expected when œdema threatens or develops early, while the heart and respiratory muscles are still fairly vigorous. Good results can be hoped for in a self-limited disease of short duration, such as croupous pneumonia, for by oxygen sometimes life can be maintained until the crisis in the malady is past. Unfortunately, as the reports of its employment in pneumonia show, when cyanosis and œdema develop the case rarely terminates by crisis, but is prolonged. As digitalis finally fails to stimulate a flagging heart that is extensively degenerated, so in pneumonia, oxygen, though signally efficient at first, finally fails to maintain a good degree of oxygenation of the blood.

A degree of greater well-being can be expected, even in chronic dyspnoea, but it will be less marked than in acute.

DISCUSSION.

DR. T. J. PITNER, JACKSONVILLE:

I can only say that I was very much interested in the presentation of the paper. I have not had an opportunity for observa-

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tion in regard to oxygen in respiratory affections. I am inclined to believe in the value of the agent. The indications for its use have been clearly presented in the paper.

DR. D. R. BROWER, CHICAGO:

I have had some experience with oxygen in respiratory affections, and believe that it is beneficial in the class of cases to which Dr. Davis has alluded. I have also found benefit from it in the early stages of acute melancholia, especially if the oxygen is mixed with a little laughing-gas. It is also of some service in the uric acid diathesis.

When I began my earlier investigations there was difficulty in getting it pure. Now the S. S. White Dental Company can furnish any desired combination and a very convenient apparatus for using it. I believe that in all conditions of exhaustion, especially in the respiratory territory it will be found of service.

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ERYSIPELAS.

A. G. SERVOSS, M. D., HAVANA.

An acute self-limited infective disease accompanied by fever, eruption and an intense inflammation of the skin; also induration of the lymphatics of that part of the body in which the disease occurs.

This disease is doubtless due to a specific germ, discovered in 1883, known as streptococcus erysipelatosus, which coming in contact with an abraded surface in a subject, where resistance to disease is lowered by reason of lowered vitality, can not throw it off, enters the blood and begins at once to multiply and infect the whole system.

The period which elapses between the entrance of the germ and the systemic intoxication is known as the period of incubation, and usually lasts from one to three days, at which time the well known symptoms of the disease appear.

That this disease is due to a microbe, we are sure, because the same has been observed, cultivated, and the disease reproduced by injection of the same into the living tissues not only on animals, but on man as well, even being used as a therapeutic measure. In all cases where these injections of the pure cultures were used, the resulting symptoms came on in from fifteen to sixty-one hours, showing the disease to have a very rapid course, and the streptococcus to have great reproductive power.

These experiments were made for the reason that Baptchinsky accidentally discovered that erysipelas, within twenty-four hours after the first symptoms appeared, would

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almost wholly annihilate the poison of diphtheria; so that what seemed to be a very violent case of that disease when the first symptoms of erysipelas came on, soon resulted favorably.

This experience was then repeated experimentally, and fourteen cases of diphtheria treated by inoculation of cultures of streptococcus of erysipelas, resulted in twelve recoveries and two deaths, which is a very favorable report.

Recent researches seem to show that the eradication of syphilis from the system is greatly hastened if an attack of erysipelas comes on during the course of the disease.

The streptococci having entered the tissues commence at once the work of infection, and as fast as new members of the family are created, they at once commence passing through the connective tissue spaces and lymphatics, each one rapidly making additions to the family, and so on indefinitely; the surface of the skin showing a very well marked line of advancement beyond which the swollen glands indicate that the disease has advanced more rapidly by subcutaneous routes, each gland in time becoming a fresh point of infection; this fact alone explains why the disease so rapidly overcomes the system and is not easily cut short.

Cases of erysipelas are divided into idiopathic and traumatic. It is easy to see in the preceding lines what grounds the writer takes and believes in regard to this division, viz., that there is but one way of contracting erysipelas, and that is, by actual contact with a germ having in it the inherent principle which can produce the disease.

All cases of so-called idiopathic erysipelas are, in my estimation, misnomers, and simply go to show that we can not find the cause, which by no means proves that there is no cause.

If we accept the universal laws of nature and the dictum that there is no effect without a cause for the same, we must

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believe that there are no idiopathic cases of any disease any more than there can be a fracture of the femur without some cause for the same. Again, in all those cases of so-called idiopathic erysipelas, on microscopic analysis the streptococci of erysipelas can be found rapidly increasing in number, and who can say or believe that the first one of these microbes entering the system was created de novo any more than a man would expect to find a full-grown horse in his stable that had been created by an especial act of Providence for his benefit.

The days of miracles are over, and the laws of nature are as immutable and unchangeable with the microscopic microbe as the macroscopic horse.

During the past winter it has been my fortune to attend several cases of erysipelas in connection with influenza, and I have been unable to see why such has been the case in so far as any specific cause is concerned, but when we come to consider that the germs of disease are always present, and that the secretions from our bodies at all times contain not only one disease germ but millions of them, the only wonder is, that we escape constant sickness; nor would we, but we are so constructed that the natural secretion of the alimentary tract proves a direct poison to almost all germs, and it is only where the system becomes debilitated and the gastric juice less acid, that they can make an entrance into the blood and seriously affect the system. The same reason holds true regarding other parts of the body, and we naturally conclude that this is the reason of more erysipelas during the past year than heretofore.

About the first thing one notices when first taking the disease is a slight malaise, which increases rapidly during twenty-four hours, at the end of which time he has a chill, followed by fever, headache and soreness all over; the tongue becomes coated, mouth tastes bad, and constipation

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ensues. About this time soreness and swelling will be noticed in some part of the head or the face, which is accompanied by much tingling and burning, together with a feeling of tension; the lymphatics leading from the spot are also very tender and much enlarged.

We now have a fully developed case of erysipelas on hand, and the friends will tell you at your visit the following morning that the swelling and the redness are increasing very rapidly; by the next day the eyes will probably be swollen shut and the whole face and head so swollen that you can scarcely recognize the person you saw the day before.

There is a high fever, much pain and headache, constipation much worse, tongue much coated and constant delirium; about this time, or a day later, you can see that the medicine given is beginning to take effect, at any rate, the eruption is fading at the point of initial lesion, but while the eruption is fading and the patient is again beginning to open his eyes, there is still much delirium, and a typhoid condition is liable to come on after the active delirium goes down.

Should your case have been very bad, you will have later on abscesses form, and very marked symptoms of pyaemia.

At any rate, the scalp will be very tender for a long time, the skin will desquamate, and about the end of the third week, or later, you will find that your patient is rapidly becoming bald; this is, however, not a serious matter, for the hair, usually, is very prompt about returning.

This was a typical case, but you will at times meet cases where the patient feels slightly indisposed, may be but a day or two confined to his bed or not at all, but still have the eruption and painful lymphatics with very little swelling; and instead of the disease extending all over the head at

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once, it will very gradually advance; the first place losing all its soreness and swelling before the second is fully developed, but the disease nearly always goes to the end of the lymphatics at the median line before it stops. Such cases are much more easily handled.

Very few cases of this disease prove fatal, and though things look very dark for a few days, you can usually assure the friends that all will yet come out right in the end.

Very rarely we see cases where from the very first symptoms of great gravity occur, the first eruption is very dark, even purple; blebs or blisters form, and when these break the tissues underneath are almost wholly disorganized.

In these cases it is not unusual to see whole sections of the flesh slough off, and the vital resources of the patient are so seriously drained, the system so thoroughly poisoned, that death results.

Death may be due to the destruction of some vital organ by gangrene, from the exhaustion produced by the great febrile condition and involvement of a large surface by the inflammation, same as a burn would kill if covering a large surface, and lastly, by its connection with some other disease, when the combined effects would be more than the patient could bear.

When the patient first comes out of his delirium he will realize that he has been a very sick man, and will be for weeks recovering from the effects of the disease, especially so should he have had septic trouble with it.

When attending such cases the physician should be careful not to touch the person of his patient more than need be, and after doing so must thoroughly cleanse his hands and render them thoroughly aseptic before dressing a wound or performing any surgical procedure; neglect of these precautions lay one liable to communicate the dis-

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ease, more especially should he attend a case of confinement, for I have known one case of erysipelas to cause the death of two women through carelessness, or filthiness of the physician in attendance. The time is coming when the neglect of precautions like these will be deemed criminal carelessness, and not till such time will we be rid of that disease known as child-bed fever.

The treatment of this disease is symptomatic, and may be considered under the heads of general and local. In the line of general treatment you will first attend to the comfort of your patient by relieving the aching and diminishing the fever, which may be done by one of the many analgesics and antipyretics, which do not to a great degree weaken the patient, or produce constipation. Next awaken the secretions by mild but certain cathartics.

In the line of specifics we have nothing, but atropia and iron are nearly such, and should be used in the majority of cases with the addition of quinine, which is supposed to lessen the migration of the white blood corpuscles and add strength to the patient.

Locally, it has been my custom to use some mercurial preparation in the form of an ointment both for the reason that mercury seems to have a direct antagonistic action on the micro-organism of erysipelas, and for the soothing and quieting effect of the ointment base.

This is a very debilitating disease, so it at once becomes necessary to support the system in any way, and by all means within our power both by medicine and foods; do not feed much but often, and do not let the first ray of morning catch your patient without something in his stomach, especially during the latter stages of the disease.

Many patients die in the early morning hours through neglect of this precaution; add every minute you can to the life of your patient, for the next minute may turn the tide,

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and a case that at one hour seemed hopeless may in another hour be on the road to recovery. In cases that have run long courses with formation of abscesses and danger of septic poisoning, always let out the pus soon as fluctuation can be made out.

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DIPHTHERIA.

E. FLETCHER INGALS, A. M., M. D., CHICAGO.

Diphtheria may be defined as a specific contagious disease, characterized by pronounced constitutional symptoms and inflammation of the mucous membrane of the fauces and upper air passages, with exudation of inflammatory lymph, which rapidly becomes formed into false membrane. It has long been recognized as one of the zymotic fevers. Many English authors consider it a constitutional disease with local manifestations, but among continental physicians and American writers there are many who regard it as a primary local affection with secondary constitutional symptoms. Personally, I am inclined to accept the former view, and can see no more reason for regarding this as a local disease than for regarding vaccina in the same light. To me, the peculiar false membrane formed in the fauces appears analagous to the peculiar vesicle developed after inoculation with vaccine virus; and the fact that there is a distinct period of incubation extending sometimes over many days before there is any development in the fauces, together with the fact that in some instances the disease runs to a fatal termination within a few hours and before there has been any appreciable local manifestations seems to prove this position.

The disease manifests itself in the throat by hyperæmia soon followed by the exudation of inflammatory lymph and deposit of false membrane in one or more places upon the surface, and this membrane may ultimately extend to the

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air passages or may be found upon wounds existing in other parts of the body. Upon post mortem examination of those dead of the disease, blood clots are usually found in the heart or large arteries. The lymphatic glands at the angle of the jaw, on the affected side, are enlarged and the kidneys are generally deeply congested. Various bacteria have been found in the mouths of those suffering from diphtheria, most of which, however, may also be found in the saliva of healthy individuals.

Etiology.—The disease is undoubtedly contagious and may be transmitted from man to the lower animals and *vice versa*, but the degree of contagiousness varies in different epidemics. The affection is generally believed to be due to a specific micro-organism, the identity of which is not as yet fully established, though most bacteriologists now attribute it to the Klebs-Löffler bacillus. This bacterium is a microscopic rod about the length of the tubercle bacillus, but twice its thickness. It is usually more or less bent, with rounded extremities, one or both of which may be thickened, giving the club or dumb-bell appearance. It is immobile and contains no spores. These bacilli do not readily absorb the common aniline stains, but may be colored by the solution of Löffler's methylene blue, the coloration often being most intense at the extremities. According to Armand Ruffer, these bacilli are found most abundantly in the superficial portions of the false membrane, and nearly all experiments go to prove that they do not often enter the lymphatics or blood vessels. Therefore, of itself, the bacillus is apparently innocuous, but it secretes a virulent toxalbumen or ptomaine which is easily absorbed and which, when injected into the circulation, produces constitutional symptoms similar to those of diphtheria. Numerous clinical observations and experiments have, however, demonstrated with an equal degree of cer-

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tainty that pseudo-membranous inflammation is often produced independently of this bacillus, as for example, that resulting from surgical injuries to the throat, or various chemical caustics; and they have also shown that certain exudative inflammations supposed to be of microbic origin, as for example, those frequently observed in scarlet fever and measles, are not attended by the development of the Klebs-Löffler bacillus. These latter inflammations have been termed pseudo-diphtheria, and it is stated that they can only be distinguished from true diphtheria by the absence of the Klebs-Löffler bacillus, by their being followed by paralysis, and by not being attended by a peculiar form of albuminuria which occurs in true diphtheria independent of dropsy or uræmic poisoning. The necessity of assuming that there are two varieties of diphtheria seems to me to justify the statement made in the beginning, that the identity of the micro-organism, which is supposed to cause the disease, is as yet uncertain.

Primary inflammation of the fauces apparently greatly favors the development of diphtheria, and its development and progress seem to be markedly influenced by bad hygienic surroundings, such as impure drinking water, sewer gas and the emanations from decaying vegetables and unclean cellars; but it is doubtful whether any of these conditions can of themselves produce the disease.

The most frequently predisposing cause of diphtheria is exposure to cold, more particularly in the spring and fall months, when the temperature of houses is liable to be kept at from 65° to 68° F. At this time adults moving about the house do not realize the necessity for fire, but the little children upon the floor are exposed to a temperature two or three degrees lower; or during the morning or evening, they are allowed to run about for some time in their night clothing and thus contract colds, which are peculiarly prev-

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alent at these times and which favor the development of diphtheria.

Symptomatology.—After a period of incubation varying from one to eight days, this disease is usually developed in young children with pronounced constitutional symptoms, such as headache, drowziness, fever, thirst, and sometimes vomiting and diarrhœa. The little one usually complains of stiffness of the neck, and within a few hours of a sore throat. In older children, or adults, the symptoms are commonly much less pronounced, the disease developing more gradually; the sore throat is attended by sensations of dryness and slight pain, with an inclination to frequently hawk and clear the throat. Usually within twelve to thirty-six hours a false membrane begins to form upon the tonsils, and in rare instances an erythematous eruption appears upon the skin. The pulse is rapid and as the disease progresses, becomes small, feeble and intermittent. The temperature at first seldom rises above 101° or 102° F., but on the appearance of false membrane it usually falls and may even become subnormal. During the third or fourth day of the attack it is likely to rise again, indicating, in favorable cases, suppuration and exfoliation of the false membrane, or in those which are progressing unfavorably, extension of the disease to the larynx, the lower air passages, or to the intestinal canal. A sudden fall of temperature after four or five days is a symptom of grave import. When the disease extends to the larynx the voice soon becomes affected and may be weak and hoarse even before the false membrane is deposited, but with its appearance upon the vocal cords the voice becomes aphonic, the cough less intense, and dyspnœa develops proportionate to the amount of obstruction. In this condition the respiration becomes noisy and sterterous and the dyspnœa is constantly aggravated from time to time by spasms of the

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laryngeal muscles. With these paroxysms all the distressing symptoms of suffocation appear.

The deposit of false membrane frequently extends to the naso-pharynx or nares, causing obstruction and a sanious discharge, and later epistaxis. The tongue is commonly heavily coated and the breath has a peculiar odor, which is almost pathognomic. Anorexia, nausea, and vomiting are common, especially when the kidneys are much involved, and albuminuria is present in nearly all cases from early in the disease. The glands at the angle of the jaw on the affected side are enlarged, and as a rule, the greater the swelling, the more severe will be the attack. Inspection of the throat reveals, first congestion, and shortly after, thin strips of yellowish white false membrane, which rapidly extend over one or both tonsils, and in more severe cases, to the surrounding mucous membrane. With the progress of the disease, the membrane becomes grayish, brownish, or even almost black in color. It has the appearance of involving the mucous membrane and being slightly elevated above its free surface. When exfoliated, or forcibly removed, an ulcerated granular or bleeding surface will be found beneath it, though not usually co-extensive with the false membrane. When the glottis becomes obstructed, the respiratory movements become slow and labored and recession of the soft parts of the chest above the clavicles, at the ensiform appendix, and over the false ribs is noticed with each inspiratory movement. The skin is cold and pallid, and may be bathed in cold perspiration. The lips, finger nails and ears appear livid, and as the carbonic acid poisoning progresses, the patient may become extremely restless or may fall into a semi-comatose condition. With the paroxysmal spasms of the glottis, the well known symptoms of imminent suffocation are developed and death may speedily ensue.

Diagnosis.—Diphtheria is not likely to be mistaken by

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the experienced physician for any other disease, except follicular tonsillitis and simple membranous sore throat; though in some cases it may be a difficult matter to distinguish between diphtheria and the pseudo-membranous forms of sore throat which not infrequently occur in scarlatina or measles. The essential points of difference between diphtheria and follicular tonsillitis are as follows: In the latter there is higher temperature, commonly two or three degrees more than that of diphtheria; there is more pain in the throat and difficulty of opening the mouth, which is not usually present in diphtheria; the swelling of the tonsils is greater, and there appear a number of small yellow spots, where secretion has collected in the follicles instead of one or two uniform patches of false membrane spreading over a considerable part of the throat.

In simple membranous sore throat, at first there are numerous herpetic vesicles, but after two or three days these are covered with a membrane similar to that of diphtheria, though it is not so thick and it is more easily removed. Commonly also, there are several patches of this false membrane, and herpes labialis is apt to occur at the same time. The pain in simple membranous, or as it is sometimes known, herpetic sore throat is usually very much more intense than in diphtheria.

There is usually no difficulty in distinguishing between diphtheria and scarlatina or measles, but sometimes in either of these affections the deposit of false membrane in the fauces may cause an appearance very like that of diphtheria. It is a question in such cases whether the two diseases are combined, or whether the pseudo-membrane, as claimed by bacteriologists, is entirely different in its origin from true diphtheritic membrane.

Prognosis.—The prognosis of diphtheria is always grave, and we can never assure the friends that the patient is out

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of danger until he has been well for three or four weeks, because of the serious sequalæ which sometimes follow. I have known cases to terminate fatally within twelve hours after the beginning of the attack, but in a majority of serious cases a fatal termination does not occur before the fourth or fifth day, and in a considerable number the struggle for life may continue five or six weeks. In some epidemics of the disease a large percentage of the patients recover, but in others twenty five or thirty or even a larger per cent. prove fatal. The deposit of false membrane in the nose, or naso-pharynx, or intestines; the occurrence of extreme pain in the ears or throat, of purpuric spots upon the skin, or of epistaxis or other hemorrhages, and the presence of persistent anorexia, vomiting, diarrhœa or suppression of urine are all indications of grave import. Patients may die slowly from asthenia, or more quickly by suffocation, or they may suddenly be carried off by heart failure or convulsions. Not infrequently paralytic symptoms follow the attack about the third week, but, except in cases where the respiratory or circulatory centers are involved, recovery usually occurs, though it may be delayed for weeks or even months, and sometimes the paralysis is only partially recovered from, more or less loss of muscular mobility remaining permanent.

Treatment.—There are few diseases in which the methods of treatment are more numerous, a fact which may be explained by the great inutility of the majority of means adopted. So much depends upon the condition of the patient when attacked, upon his hygienic surroundings and the variety and nature of the particular epidemic, that physicians are necessarily led astray in estimating the effect of remedies employed. During the early portion of a severe epidemic a very large percentage of patients may die, whatever methods are used in the treatment, but later on, the

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cases become less and less severe and the fatality greatly diminishes, regardless of the treatment employed. However, the remedies which are in use during the latter part of the epidemic are liable to receive all the credit.

Whenever diphtheria appears in a household the greatest care should be exercised to isolate the patient, and all other children should be removed, if practicable. The rooms occupied by the patient should be kept carefully closed, the doors covered with sheets constantly moistened by antiseptics, and the patient and nurse should have no intercourse whatever with other members of the household. The sick room should be kept warm and thoroughly ventilated, and finally, when the attack subsides, the utensils and clothing used in the sick room should be disinfected or destroyed, and the room thoroughly fumigated and aired before it is again used. Even then it is well to prevent children from occupying the room for several weeks afterward.

In the beginning of the attack, ice, taken freely into the mouth, tends to relieve thirst and reduce congestion and apparently markedly to limit the progress of the disease. Of even more importance has seemed to me the application, externally, of ice bags, or the ice-water coil of metallic or rubber pipe applied to the throat. When ice bags are used, they should be narrow and long and should be about half filled with pieces of ice about the size of filberts. The bag may then be folded in a handkerchief and tied so that it will extend up to the ears, on both sides. The ice will need to be changed about every hour. Occasionally patients complain of pain, when cold is employed, and in these, very hot applications will be found to answer a better purpose. But whether heat or cold be used, it must be continuous, otherwise more harm than good will result.

As soon as the membrane begins to separate, hot applications appear to be more useful than cold. The disease usu-

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ally causes dangerous prostration, therefore the patient should be well nourished from the beginning. Liquid diet, in the form of beef tea, broth, or better yet, milk, should be given at regular intervals and in large quantities, half a pint or more of milk, or its equivalent, being used as often as every third hour. Alcoholic stimulants are recommended early, by many practitioners, but to me they seem unnecessary and undesirable until the stage of depression supervenes. Acting on the principle that bacteria can not live in acid solutions, some physicians recommend the free use of acidulated drinks or gargles, and this possibly explains the reputation recently attained among the laity of pineapple juice as a cure for diphtheria. Many substances have been used, with the hope of removing false membrane. The simplest of these is steam, which may be impregnated with the time-honored lime water and applied by the croup tent or any suitable atomizer, but it is extremely doubtful whether lime in any form is ever applied in sufficient quantity to appreciably affect the pseudo-membrane.

Lactic acid is one of the most powerful solvents for pseudo-membrane. It has been highly recommended in about fifteen per cent. solution to be frequently employed as a gargle or spray, and in full strength to be carefully applied by the physician, twice daily, to the false membrane. Tripsin, resorcin and papain have all been used for their solvent effects upon the membrane, but they seem to have little if any influence upon the progress of the disease. Tannic acid and alum are used to astringe the false membrane, and insufflations of sulphur have become extremely popular with the laity, but none of these seem to have much effect upon the disease. Solutions of mercury-bichloride, one tenth of one per cent. or weaker; of carbolic acid, one to three per cent.; of potassium permanganate one per cent.; liquor sodæ chlorinatæ, five per cent.; of chloral

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about thirty per cent.; or of sulphurous acid from five to ten per cent. have all been highly recommended from time to time, as gargles or sprays to destroy the poisonous germs in the throat. Peroxide of hydrogen has also been used for the same purpose, either diluted with an equal part of water, or in full strength as obtained from the pharmacist. Tincture of myrrh, strong alcohol, and tincture of the chloride of iron have also been recommended, as also tincture of iodine or a strong solution of silver nitrate. I believe that strong applications often do more harm than good, and any remedy which causes the patient pain for more than five minutes is likely to be injurious. Tincture of iron has seemed to me one of the best remedies for local use, as it has also appeared for internal administration. Recently I have adopted as a local application, either by means of spray or gargle, a saturated solution of boric acid in cinnamon water. The researches of Roux and Yersin, in 1889, demonstrated that the toxicity of cultures of the diphtheritic bacillus are greatly diminished by the addition of carbolic acid, borax or boric acid, and the experiments of Dr. G. V. Black, reported in the *Dental Review* for February and March, 1889, have shown that the oil of cassia, commonly sold as oil of cinnamon, 1 to 3,000, is a most efficient germicide; therefore, a combination of these two appears especially suitable for local use in this disease. This application is neither unpleasant, painful nor dangerous, and from my clinical observation it appears very effective. My common practice in diphtheria is to give tincture of iron in large doses, about one minim for each year of the child's age, combined with an equal quantity of glycerine and with enough syrup of tolu to make one drachm. This dose is administered every hour in serious cases, or once in two hours when the symptoms are less severe.

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The patient is first given three or four swallows of water, so that the medicine will not prove irritating to the stomach, then the medicine is administered in as concentrated a form as can be taken without causing pain, the patient is directed to hold it in the throat as long as possible, thus obtaining the effect of a gargle, and then it is swallowed. Usually as much as ten minims to the drachm will not cause pain in the early stages of the disease, but later on it may be necessary to dilute the dose with water. The gargle or spray should also be used every hour. Thus, one or the other would be administered every half hour excepting during the night, when it is often necessary to allow the patient to sleep. However, when the disease is progressing, it is sometimes unsafe to allow the patient to go more than half an hour without receiving either the gargle or the solution of iron, but I would strongly deprecate wakening the patient more often than is necessary for this purpose, and as soon as the membrane ceases to spread, I would allow the child to sleep one or two hours rather than disturb it to give the medicine. Quinine in moderately large doses may also be given judiciously, and as the stage of depression comes on, alcoholics should be used freely, it making little difference in the progress of the disease whether they be in the form of wine, whisky or brandy. Children will often take much more readily than any of these a mixture of equal parts of alcohol and syrup of tolu, which is practically of the same strength as good whisky. When the heart fails, no remedy is of so much value as some of the preparations of nux vomica. The tincture of nux vomica, although liable to variation in strength, has seemed to me to act more favorably than strychnine. Whichever preparation is adopted, it must usually be given in large and frequently repeated doses; to a child five years of age I have given one or two minims of tincture of nux vomica, which equals two to four

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drops, every hour for many days, with the greatest benefit. I should not hesitate as long as the heart continued weak to give half a minim (that is one drop) every hour until the constitutional effects as indicated by twitching of the tendons, were developed; the doses should then be slightly diminished, or the interval between them prolonged. Within the past few years the bichloride, and other preparations of mercury have been largely used in the treatment of diphtheria in doses often much larger than could safely be administered to adults. I have myself used freely the mild chloride of mercury (calomel), with most happy results in diphtheritic laryngitis, but I have not favored large doses of the other preparations, believing that a system already struggling against the virulent action of the toxalbumens is poorly fitted to withstand poisonous doses of bichloride of mercury and its congeners. The mild chloride of mercury has been highly recommended for diphtheria, and I have no doubt that it is beneficial, especially as a cathartic. I have found it most efficacious in some instances of diphtheritic laryngitis, and have never known it to do harm, even when given in very large doses.

Among other remedies which have received the sanction of good authority for the curing of this disease, are cubebs, copaiba, potassium chlorate, the supho-carbolates and sulphites of sodium and potassium, and the salicylates and the benzoates of potassium sodium and ammonium. Indeed, there are few remedies of any potency in any disease which have not been tried for this affection and which have not, for a time at least, received more than merited praise.

When the disease extends to the larynx, non-depressing emetics are sometimes useful to dislodge the false membrane and the mild chloride of mercury in large and frequently repeated doses has seemed to me most beneficial in preventing its deposit. I have given calomel in such cases in doses

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equivalent to half a grain for each year of the child's age, repeated every one or two hours according to the severity of the case, until its effects upon the bowels were noticeable. It is surprising how much of the remedy may be taken in such cases before its characterisitic effects upon the stools occur. I have seen a child two or three years of age take 30 or 40 grains before the bowels moved. As soon as the effects of the remedy are noticed upon the stools, the doses should be diminished in size and frequency and as soon as the dyspnœa is relieved, the remedy should be withdrawn. Unfortunately, whatever remedies are employed the false membrane will frequently extend to the glottis as indicated by difficulty of breathing, blueness of lips and finger nails, and recession of the soft portions of the chest walls during inspiration. When these symptoms occur no time should be lost in adopting operative measures, although a certain number of cases may be cured by mercurials or a small percentage might recover from the unaided efforts of nature.

It is not safe to wait for nature or the slow effect of medicine in these cases, for statistics have shown that about ninety five per cent. prove fatal when the larynx has become involved, unless operative measures are adopted, and even with these, only twenty five or thirty per cent. are saved. One of two operations may be adopted, the one to be preferred depending somewhat upon the age of the child and its surroundings. Other things being equal, in a child under five years of age, I decidedly prefer intubation by O'Dwyer's method, though in older children it is not quite as satisfactory as tracheotomy. Even in quite large children intubation has been found useful, particularly when the graver operation will not be permitted. I would recommend that it be tried first in all cases, because of the ease and rapidity with which it can be performed, the avoidance of a wound liable to secondary infection and the ready con-

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sent of parents, and finally, because it is no bar to the subsequent performance of tracheotomy, should this severe operation appear necessary.

I hope, gentlemen, that you will try intubation in these cases, and I believe that none of you will fail in successfully introducing the tubes. The confidence gained by two or three intubations will cause the physician to recommend the operation earlier, and thus protracted dyspnœa and the consequent pulmonary congestion and œdema will be prevented and many lives will be saved that would be lost if the operation were delayed until suffocation became imminent. There is only one accident which is likely to occur in the performance of intubation, namely: The crowding downward of loose membrane before the tube; this, in a few instances, has caused speedy death. To relieve the difficulty all that is usually necessary is to at once withdraw the tube, when the loosened membrane will be drawn out with it, or will be coughed out immediately afterward, but in some instances this happy result is not obtained, and therefore it is well for a physician always to have a tracheotomy set at hand when about to perform intubation, so that the trachea may be opened at once if necessary. I have never found it necessary to resort to tracheotomy at such times, but have long felt it best to be prepared for any emergency that might arise. It is best, before doing intubation, to explain to the friends that there is a bare possibility that the child may die before it is completed, because of this accident. When tracheotomy for any reason becomes desirable, it should be done as soon as practicable after marked inspiratory recession of the chest walls indicates serious obstruction of the glottis.

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DISCUSSION.

DR. T. J. PITNER, JACKSONVILLE:

I feel that we are indebted to Dr. Ingals for his admirable presentation of an interesting subject. Diphtheria has engaged much attention in late years, and is interesting in all its aspects, whether viewed from a scientific or practical standpoint. I am in hearty accord with nearly all the Doctor has said about it. But I must question the view taken of its being a general disease with only local manifestations. I know that there are many grounds for that opinion. But in my judgment there is evidence of a more important local process than Dr. Ingals apparently has given credit to; that the local process is an essential element in the disease, and that the general disease may be considered as a secondary systemic infection.

The Doctor has quoted Dr. Prudden's observations in 1889. We all know what Dr. Prudden has done, and we think well of his work, but it seems strange that he did not discover the bacillus which is generally considered the causative agent, the Klebs-Loeffler bacillus. It may not always be found, but with other observers who have been careful in their investigations it has so frequently been found that we must think there is some fault in the investigations referred to. In a series of cases subsequently studied by Dr. Prudden I understand he discovered this bacillus in nearly every specimen.

It appears that the specific agent producing diphtheria finds lodgment in the fauces. and that its product is absorbed and produces the general symptoms, and that it multiplies in the place of lodgment with increased absorption and increase of the constitutional disease. This corresponds largely with the clinical history and symptoms. Diphtheria is not as sudden and severe in its onset as that disease to which it is so closely related —follicular tonsillitis.

The local process in this disease is well known. But what does the poison of diphtheria do in the system? The product seems to be a sort of ferment which produces further changes

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upon the proteids of the blood and of the tissues, producing secondary products, toxalbumins, or albumoses. These occurring in patients dying of diphtheria have been extracted, freed entirely from organisms, and introduced into certain animals with uniform results. These results are, so far as the general symptoms and conditions are concerned, well known to you, but some of them I wish to call attention to which seem to be specific, and characteristic of this morbid process. Prominently amongst the effects we meet is that upon the nervous system, not upon the centers, but upon the tract of the motor nerve and its distribution. The peripheral nervous system suffers in a peculiar way. The poison attacks the white substance of Schwann and produces degeneration, and finally it disappears entirely toward the periphery. Furthermore, in some of the fibres the axis cylinder itself becomes ruptured, in that case degeneration occurs toward the distribution of the nerve. This does not occur in all fibres of the nerve or of any set of nerves, but in some fibres only; hence the so-called paralysis of diphtheria is a paresis of certain muscles from degeneration of some fibres of the motor nerves supplying them.

The changes which occur in the blood in this disease are not characteristic. There is marked fatty degeneration of the heart in diphtheria. This occurs independently of any lesion of the vagus which is but slightly affected. The muscular degeneration found elsewhere than in the heart is consecutive to the lesions of the motor nerves supplying the muscles involved.

The toxemia of other specific diseases also causes fatty degeneration of the heart, but not so directly or to the same degree as that produced by diphtheria.

There is also an effect upon the kidneys, almost uniform nephritis, and we may assume that when we find albuminuria in diphtheria it is due to nephritis. These are some of the pathological processes due to the disease generally considered, that upon the nervous system seeming to be characteristic and distinctive, and I think may lead to the inference that diphtheria in man uniformly produces these nerve lesions, but not usually and to the extent of paresis. Moreover, these results do not

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seem to be dependent upon the degree of fever, but upon the morbid process itself—the toxæmia which leads to this peculiar degeneration, and which is liable to continue after the subsidence of the fever and acute symptoms.

The diagnosis is important. I noticed in a discussion last year on the admirable paper of our president, Dr. Hunt, there were some inclined to group those cases of exudate and patches in the throat, calling them all diphtheritic. Whilst that may be prudent in certain doubtful cases, I think it is erroneous and must be in the end mischievous. I do not think the line can be sharply drawn in all cases, but we must insist upon a radical distinction between diphtheria and certain allied affections, especially follicular tonsillitis. The latter disease is very prevalent with us. I see thirty or forty cases of it to one of diphtheria.

It can be diagnosticated by its local appearances and its general conditions in nearly every case, and in the doubtful cases we should say that the case is not clear and we must await further developments. I regret that owing to the limit of time in discussions I can not remark further upon the diagnosis, or touch upon the treatment. Practically considered, we must regard diphtheria both as a local and general disease and treat it accordingly, which I am glad to see the essayist does. The measures recommended by Dr. Ingals are all good. The special conditions in a given case will determine the selection of the most appropriate remedies.

Dr. J. P. Matthews, Carlinville:

The paper of Dr. Ingals on the subject of diphtheria has been very interesting to me, one point especially, and that is its occurrence during the prevalence of sore throats. I think I have seen diphtheria in the same families with follicular tonsillitis. I have been led to believe that in diphtheria there is first a traumatic injury produced by denuding the fauces of the epithelium which forms a nidus for an attack of the diphtheritic germ upon the denuded tonsils. In answer to the question from anxious parents "What they should do to prevent their children from taking the disease during the prevalence of diphtheria, I have invariably

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answered "keep your children's throats well." The explanation is that there is a germ in the atmosphere that attacks a sore throat only. It will not attack a well throat. I am under the impression that diphtheria occasionally attacks throats that have become sore with acute tonsillitis. I regard the sore throat first as a traumatic injury that is subsequently attacked by a germ in precisely the same way as any traumatic injury that we meet with in surgical practice. Viewing it in this light I have for several years, when called early to see the case, been in the habit of attacking the patch, by twisting a small piece of cotton on the end of a broom straw and saturating it—if the child is in a condition to be examined, and you can almost always do it—with pure carbolic acid. I am satisfied in a number of instances I have shriveled the patch in this way. This point has not been spoken of. Then again, the atmosphere in the room should be saturated with turpentine and oil of eucalyptus, keeping it constantly boiling on the stove in the vessel containing it, thus impregnating the room. It is a protective to not only the friends in the room, but it is of benefit to the patient. In that form of the disease which attacks the larynx I am satisfied of the good results of lime vapor. The manner in which I have carried out its inhalation has been, where there was a parent or friend sufficiently interested in the child to undergo a steam bath, to throw a blanket over the child and parent with the child between the knees of the parent, and in that way the child is compelled to inhale the steam until it is in a deep perspiration. Sometimes the child is almost exhausted. After carrying out this plan I have found that the child sleeps comfortably and has less difficulty in breathing.

I have seen in my practice a number of cases that would have necessitated intubation or perhaps tracheotomy had not the lime inhalation been thoroughly carried out.

DR. C. W. SIBLEY, FAIRFIELD:

The paper of Dr. Ingals in the main accords with my views and my experience in the treatment of diphtheria. Yet there are some points that I think might be emphasized. Whether the

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disease is primarily systemic, or primarily local, is perhaps not a matter of great moment. The treatment is to keep the throat clean, and surgically clean. As far as the local treatment goes, if we do not use something that is germicidal in its nature, that will destroy odor, that will do what our antiseptics do for a wound, a suppurating surface or cavity, it does not do any good. I do not mean to say by this that we are to minimize the effects of general treatment, such as the administration of iron, milk, etc. Milk, as has been said, is something that we do not want to give our patients in large quantities in diphtheria, especially children. I desire to emphasize the fact that we must keep the throat surgically clean, and if bichloride of mercury is used, in safe hands it is very efficient. I think the combination of eucalyptol and some of the essential oils spoken of is also very efficient. I have had splendid results from peroxide of hydrogen, alternated with some of the essential oils like listerine, because the peroxide of hydrogen does decompose pus, and does have, I think, a decided effect in the way of dissipating false membrane. I feel the more decided in this because the discussion is being carried on from year to year as illustrated in the most excellent paper read last year before this Society by Dr. Hunt, in which the point in regard to the diagnosis was made then as now, and I would like to say a word or two about that. I do not believe that every case of sore throat is diphtheria. That is true enough, but at the bedside as we meet the disease an immediate diagnosis is oftentimes impossible. The treatment, in order to be effectual, should be instituted at once. It is sometimes necessary to put the patient upon some preliminary treatment until the diagnosis is made. In any case where there is a constitutional depression it is safe to begin on the antiseptic treatment, and it does not matter whether it is one form of the disease or another.

DR. W. S. CALDWELL, FREEPORT:

During my late trip to Germany I made it a point to visit every prominent physician in Berlin in order to find out his mode of treatment of diphtheria, erysipelas, typhoid fever and

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pneumonia. I find with regard to the treatment of diphtheria that a uniformly expectant plan is adopted by nearly everybody. I spoke to Professor Ferbinger, of Berlin, about Jacobi's treatment of diphtheria and other forms of treatment, and he said he has tried that for years, and that any child that could take Dr. Jacobi's treatment was not sick. It takes a well child to take it. About the first thing we get in diphtheria is an intolerance of nearly everything taken by the stomach. This is the great failing of patients. Internally their treatment in Germany for diphtheria is absolutely nothing.

Another point made in the paper, and which is of interest to me, is the circumstances under which we should perform intubation or tracheotomy. The rule laid down in the hospitals there is generally not to perform tracheotomy on the patient if there is evidence that the membrane has undergone a septic change, for if you do you will get secondary infection in the wound and your patient will die of that. This is the class of patients in which they use intubation. On the whole, where that conditton of things does not exist they prefer tracheotomy. I have gone through the wards there many times and they have a steam pipe, and as soon as they perform tracheotomy they lay the patient up close to it and allow the pure steam to play upon the tracheotomy tube; but the internal treatment is absolutely nothing. They claim that all of the iron and quinine that is poured into the patient is all nonsense, and that an expectant treatment with good nourishment and a little alcohol achieves the best results.

Dr. William H. Wilder, Chicago:

I should like to call attention to one manifestation of this disease which might seriously affect the future welfare of the patient. We may speak of it as a complication, but in some cases the disease certainly begins in the conjunctiva. There are cases in which the disease extends from the throat through the naso-pharynx to the nasal passages, then to the conjunctival sac through the lachrymal duct, but in others there can be no question that the disease is engrafted primarily upon the conjunctival mucous membrane. Such cases have been spoken of by many

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observers. I remember to have read in St. Thomas' Hospital Reports cases published by Mr. Nettleship, in which the conjunctival disease seemed to be primary. The cases were unquestionably diphtheritis, and manifested all the characters of the disease, as it appears on the mucous membrane of the conjunctiva. Two of his cases showed a constitutional affection, the disease spreading from the eye to the nose and throat, and causing a fatal termination. When the disease is engrafted upon the conjunctiva we have a serious condition of things, and one that may seriously affect the future comfort of the patient. We have a swollen condition of the mucous membrane; the lids are hard and brawny, and the chemosis of the conjunctiva may so impair the nutrition of the cornea as to lead to ulceration or sloughing of that part. In other cases, with prompt treatment, this may be avoided. The false membrane appears on the conjunctiva very soon after the beginning of the disease, and does not differ in its appearance when found there from the typical exudate as it is found on the pharyngeal mucous membrane. I think bacteriological investigations have demonstrated the presence of the Klebs-Loeffler bacillus, and the general appearance of the mucous membrane is that of infiltration of the submucosa, the same as that of the submucosa of the pharyngeal parts.

Considerable stress should be laid on the prophylactic treatment of this condition, as unquestionably it can be prevented in many cases. I neglected to mention that in a number of instances the disease has been proven to be the result of auto-inoculation. The patient has infected his own eyes from discharges that have come from the mouth. It may be well here to utter a word of warning to physicians against the danger of inoculating the disease upon their own conjunctivæ.

The local applications to the conjunctiva must be strong astringents, antiseptic washes, etc., at the same time paying attention to the treatment of the disease elsewhere. There is a method of treatment of these cases which has been adopted by Mr. Tweedy, of London, which, I think, has not been practiced in diphtheria of other parts, and that is the application of a solution of the sulphate of quinine. By it, he claims, he reduces the

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inflammation quite promptly and causes the false membrane to disappear. I had the pleasure of witnessing one such case under his care in which this treatment was applied, and I merely suggest it as a possible resource in the treatment of diphtheria of the pharynx.

There is one other point I should like to bring up, and that is with reference to the occasional paralysis of the ciliary muscle. This occurs at any time from the second to the fourth week after the inception of the malady, and may end in complete paralysis of the power of accommodation. It is favored, doubtless, by the use of the eyes while the patient is still suffering from the disease. The child is given toys to play with; he reads his books, probably, sitting up in bed, if the physician does not consider him very ill, and because of the strain on the muscle of accommodation paresis results. This is an exciting cause in many cases, and it might be well to throw out the hint, to avoid the prolonged use of the eyes during the course of the malady. As a rule the paralysis disappears at the end of four, five, or six months, but recovery may be hastened by the judicious administration of electricity.

DR. E. FLETCHER INGALS:

I called attention in my paper to the necessity of recognizing the local process, and did not attempt to convince any one that diphtheria is a systemic instead of a local disease; but there are strong reasons for believing that it is not essentially a local affection. It has been shown by expert bacteriologists that the bacilli do not enter the blood or system in any considerable number and usually can not be found at all. They are also found most abundantly upon the surface of the false membrane instead of beneath it upon the surface of the mucous membrane, which would seem to indicate that their multiplication is the result rather than cause of the false membrane. The time at which the false membrane occurs would also seem to indicate that diphtheria is not a local disease. As an argument for the local nature of the disease one of the speakers said it comes on gradually; but this is not always the case. I have seen cases

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die within twelve hours after the first symptoms and before a particle of false membrane could be discovered in the throat, yet the prompt development of other cases in the same family left no doubt as to the true nature of the disease.

The researches of Prudden, which I alluded to, pointed to a streptococcus as the cause of the disease. His more recent investigations sustain the theory held by most bacteriologists that the Klebs-Loeffler bacillus is the cause. There can be no doubt that this bacillus is generally present in diphtheria, but there still seems a reasonable doubt as to its importance.

Bacteriologists assert that a ptomaine causes the constitutional symptoms, but that the baccillus generates this ptomaine. Possibly the effect has been mistaken for the cause and that the ptomaine causes a condition which furnishes the bacillus a good soil upon which to grow. The researches of Prudden failed to discover the Klebs-Loeffler bacillus in many cases, when the pseudo-membrane was abundant in the throat, a fact which could only be explained by assuming that they were not true diphtheria, even though there was much pseudo-membrane in the throat and the patients died.

Turpentine and eucalyptus have been referred to as valuable remedies by one of the speakers. There were many points that I did not touch upon in my paper, because of lack of time; but as to these two, the researches of Dr. G. V. Black, of Jacksonville, have proven that neither of them have much antiseptic power; eucalyptus having only about one-twelfth and turpentine about one-seventh the efficacy of oil of cassia.

With reference to the German professor quoted by Dr. Caldwell, who said that any child who could take Jacobi's treatment for diphtheria was not sick, I have to say if this German professor had reflected a moment he would have been more judicious in his remarks, for he must know that although some of these patients can not take medicine, yet disturbance of the stomach is a prominent symptom in only a limited number of cases, probably not more than one-fourth.

Referring to Dr. Caldwell's quotation from a German professor, with reference to intubation and tracheotomy. I have

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had occasion to look over the literature of this subject thoroughly for a few years and have found what many others have observed, that Germans are very conservative and slow to accept anything originating outside of Germany. It was with great hesitancy that they resorted to intubation at all, but they are gradually doing the operation more and more, and now several advanced German physicians practice intubation quite extensively and believe in it.

Dr. Caldwell also said that the internal treatment of diphtheria as practiced in Germany is absolutely nothing; I do not know how large a part of the German physicians adopt this course, but suspect that it is confined to the particular physician whom he quotes; but be that as it may, I do not believe there is a person in this room who would be willing to adopt this German method with his own child.

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INFLUENZA.

A Paper Based on Observations of the Epidemics of 1889 to 1892.

WARRINGTON EARLE, M. D., CHICAGO.

Introductory.—I regard three consecutive yearly visitations of influenza a national calamity. The troubles, anxieties and deaths in our families, added to the increased labor which it has brought upon our profession, to say nothing of the sequelæ and complications which have followed, all unite to make these epidemics much dreaded. When we observe the catarrhal difficulties, either in the alimentary canal or the respiratory tract, which frequently threaten the lives of our patients within a very short time, or when we observe the extreme nervous complications which take place, some of them lasting for months and even years and in some cases producing invalidism, we are justified in saying that these epidemics taking place with such frequency are national calamities.

Historical.—This disease has been recognized and described in our own country for 250 years. According to Webster, the first epidemic recorded in this country was in 1647. From time to time epidemics have taken place and have been referred to under different names, although the descriptions in our standard works are really quite unsatisfactory.

Wilson, in his treatise on continued fevers, has an excellent article on influenza, but in many works on the practice of medicine it is not mentioned. The meagerness of facts which the average practitioner has in his possession in

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regard to these recent epidemics is somewhat surprising. Many can give no details, and some can not approximate the number of their cases. The most startling phenomena present seems to have made but little impress upon their minds unless particularly engaged in studying the disease. This is easily explained, however, for during these epidemics, the majority of practitioners were so busy that it was absolutely impossible to keep proper records. In this manner and for this reason undoubtedly many important facts escaped our notice and were not recorded.

Etiology.—The exact cause of this disease is probably not known. The hypothetical causes, however, have been classified as follows: First, poisonous changes of the air; second, contagion; third, products of local conditions and general influences; and fourth, bacteria. The poisonous element, whatever it is, takes possession of the system with great rapidity, indeed, it has been called by some the "lightning catarrh." In substantiation of these various theories, the following facts may be related. It has been shown that previous to, and at the beginning of the recent great epidemic of influenza, which was said to have started in St. Petersburg, the prevailing wind was unusual and its direction was from the northeast, from the cold, desolate and exiled-populated region of Siberia. It has also been shown by the reports made under the direction of the Michigan State Board of Health, that previous to and during the commencement of the epidemic in that state, there was an unusual direction of the wind, notably from the northeast, and also that there was a marked increase in the amount of atmospheric ozone. It has also been remarked by those who have carefully traced the course of the spread of the disease, that it depends in many instances at least on human intercourse, and is more prevalent along the lines and channels of human travel. It has been known from time to

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time, as a disease belonging to certain nationalities, such for instance as the Russian influenza, and later as the Chinese influenza, and more subsequently as the Japanese influenza, each country claiming that the disease comes from some other country than its own. The reports to the British Medical government, by its medical officer, clearly show that the spread of the influenza depends upon human intercourse and that the disease spreads no faster than human beings, parcels or letters travel.

Bacterial investigations concerning this disease have been pretty thoroughly carried on during the past two or three years.

Filatow (Arch für Kinderheilkunde, Vol. V, p. 357) has written fully concerning the history and symptoms of the disease under consideration, and Otto Seifert (Saml. klin. Voetr., No. 240) has investigated its bacteriological history in a very thorough manner.

During the past year particularly, investigations in regard to the etiology of this disease have been carried on in the Berlin Institute by Dr. R. Pfeiffer, Dr. S. Kitasato, Dr. P. Canon. For original articles in English, see *British Medical Journal* of January 16, 1892.

It perhaps can not be claimed that we know at this day the exact cause of this terrible calamity, but the following from Dr. Sissley, of London, in addition to what has already been said, gives us a *resume* of about what is known concerning its etiology.

(1) The first case of influenza in a town is generally a patient who has come from an isolated place.

(2) Isolated cases precede an epidemic.

(3) Influenza extends along the lines of human intercourse.

(4) Isolated persons such as prisoners and inmates of asylums and convents often escape the disease.

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(5) The numbers of those affected in an epidemic increases till a maximum is reached and then declines, as in the case of other contagious diseases.

General Symptoms.—The disease affects more particularly one of three groups of organs:

First, The respiratory and circulatory apparatus.

Second, The gastro-intestinal canal.

Third, The nervous system.

Sometimes the infection localizes itself in the respiratory and mucous tract, spending its energy here, and the patient will pass through a severe catarrhal bronchitis or a pneumonia with such general prostration as to endanger his life; or the disease seems to be a catarrhal difficulty of the stomach and bowels with a tendency to collapse on account of the extreme weakness which is induced; or closely following the severe headache, which indicates that the nervous system is the first to be attacked, have come threatened convulsions or a meningitis. We have then these organs affected singly, or in some cases a complication involving almost all of them, such as a bronchial difficulty with gastro-intestinal disturbance, or a gastro-intestinal disturbance with great nervous prostration.

A symptom which has almost always been constant in my practice, is an extreme redness of the face with a tired and sleepy expression. Sometimes there is redness of the conjunctiva and of all the mucous membranes in sight, and at other times there is pallor and great depression with a feeling of weariness. This last symptom is particularly marked in the very young and aged. A severe chill frequently ushers in the commencement of the disease in adults. In my observation this is not present in children who are commencing to suffer from the infection. Associated with the general symptoms we have noticed, and which I shall speak of more extendedly in the follow-

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ing paragraph, ear ache is a prominent and frequent factor. This is usually associated with some catarrh of the upper air passages, and is regarded by some as a prominent diagnostic feature. Some authorities make a distinction between the mild and severe forms of the disease, basing it upon the temperature. The milder having a temperature not exceeding 102°, while the severer forms reach 104° or higher. The temperature manifestations are sometimes prominent only at a single time during the day. Many cases reach a temperature of 105° in the epidemics through which we have passed, and one physician records a case marking 105.8° while another speaks of a temperature of 106°. High fever in my judgment is not generally a very noticeable feature, although sometimes we have what would be called a high degree lasting for a short time. A high temperature persisting for a long time during a period when we should expect convalesence, should make us fearful that there is developing some systemic complication. Some observations in regard to subnormal temperature will be noticed later in the paper.

SYMPTOMS REFERABLE TO DIFFERENT ORGANS.

The Respiratory Apparatus.—A catarrh of the respiratory apparatus takes place with great frequency. Sometimes the upper respiratory apparatus is attacked first and the disease rapidly spreads so that within an extremely short time the entire air tract is involved. We have sneezing and a cough, particularly of a tracheal character, which is followed by an apparent localization of the infection in one or both of the lungs, threatening a pneumonia. I have frequently noticed, however, that the following day a general bronchitis is found to be present, and the localization has disappeared. A general catarrhal bronchitis seems to be as frequently developed in our late epidemics as any

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other lung complication. The prevalence of a general catarrh of the bronchial tubes which does not develop into a pneumonia, is an observation that should be remembered. We have, too, sometimes a severe and perplexing cough without any physical signs. Respiration is sometimes very slow, and a few cases have occurred in which the respiratory efforts have absolutely stopped for a few seconds, these peculiar paroxysms coming on several times during the day, and life is only preserved during such times by the employment of artificial respiration.

The Circulatory System.—Depression of the heart and failure in its nerve supply, seem always out of proportion to all other symptoms. There is usually from the first a rapid and weak heart, and fainting takes place in many cases. The pulse is rapid and weak, and oftentimes intermittent. In some patients the temperature and pulse seem fair, but a general muscular weakness with a tendency to faint is prominently noticed. Organic heart disease has been noticed after influenza which had never been recognized previously. Cyanosis is sometimes present, and the weak heart is so manifest in some cases that death seems imminent.

The Digestive Apparatus.—The tongue is frequently flabby and coated and shows teeth indentations, indicating malnutrition. Constipation is sometimes present.

Loss of appetite with persistent vomiting is noticed in many cases. Diarrhœa to such an extent as to become exhausting is frequent.

The Nervous System.—Great irritability and fretfulness are frequently present, particularly in children. Headache and muscular and joint pains are frequent and sometimes intolerable. There is an indifference—a hebetude noticed in many cases. Convulsions take place in a small per cent. of children, and congestion of the brain with drowsiness is noticed. In one case which was under my observation the

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child did not close its eyes for four days and nights. It was not unconscious or comatose, but indifferent and wanted to be left alone. Chorea has followed in a number of cases. Next to the catarrhal symptoms, one of the most peculiar manifestations noticed was sleeplessness at night, and more or less excitement during the day. Little patients were remarkable in being obstinate, protesting against the slightest touch, and refusing the slightest examination on the part of the physician. This peculiarity is regarded as of diagnostic importance in differentiating from typhoid fever; in typhoid fever the child is gentle and indifferent. The extreme irritability of the nervous system makes the attendant fearful of meningitis. Acute mania has actually followed; in one case it persisted for over a week, and a second child of fourteen years of age was thus affected.

Dr. Julius Althus has recently (Am. Journal Med. Soc. April '92) published an exhaustive article on mental affections after influenza. He gives causes illustrating neurasthenia, hypochondriasis, melancholia, delirium from inanition, homicidal tendencies and general paralysis.

Anyone at all skeptical regarding the profound influence which the poison of this disease produces upon the nervous system, should read the article. He believes that the psychoses observed after la grippe, are far greater than those after any other infectious disease.

Many cases illustrating the peculiar symptoms as we find them affecting different organs might be given, but time and space will not permit. The following, however, very briefly given, will perhaps be of value for future reference.

Case 1. Baby G., age 10 months. Slight pneumonia of left lung; general capillary bronchitis of both four days before death; listlessness; dizziness of head; biting of hands; general irritability; coma for some time, and finally death

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in about one month after the commencement of the disease.

Case 2. Baby McC., age 10 months. Ordinary bronchitis at first and severe; in three days the development of capillary bronchitis with all its dangerous symptoms, convulsions and afterwards all the symptoms of meningitis, such as changeable pulse, contractions and finally coma.

Case 3. Baby H., aged 12 months. The baby at first call evidently was suffering from headache, wanted to sleep and desired to be left alone. At the end of fifteen days there was an amelioration of these symptoms, but upon the following day bronchitis suddenly made its appearance and upon the twenty-first day of the disease, after almost every system in the body had become involved, death took place.

Case 4. Baby C., age 10 months. Pneumonia; capillary bronchitis; temperature 104 to 105; pulse 150; death in five days.

Case 5. Baby J. In consultation with one of our most noted practitioners. The child was found to be drowsy and having what could very easily be called the hydrocephalic cry. An imperfect and hurried examination would have given the diagnosis of meningitis, but the eyes responded to light, and after a few days convalesence was established and the child made an excellent recovery.

Case 6. The messenger which called me to this case stated that the patient was in the midst of spinal meningitis. There was drowsiness, vomiting, refusal of food and more or less trouble with the gastro-intestinal canal. A course of general treatment with sterilized food placed this child in a perfectly safe condition.

Case 7, illustrating cerebral anæmia. Margaret Geraghty, aged 4½ years, always healthy, had the grippe in mild form in 1890 and 1891. Some weeks after would have what was known to the household as a "spell,"

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which meant a development of pallor, evident dizziness and a vacant look to her eyes. As a matter of fact she could not see, and in one of her attacks she had a temperature of 104. She was prostrated, nutrition was poor, but not an organ in her body could be found diseased. Weeks and weeks of treatment with the usual tonics, supplemented with digitalis and hydroleine, have restored her to perfect health.

Cases 8 and 9, illustrating rapidity of attack with profuse vomiting and diarrhoea.

Baby F. and Baby R., age 7 and 10 months. When these children were seen, the two principal symptoms were found to be diarrhœa and vomiting. The eyes were sunken as were the fontanelles. Both children were thirsty, restless and rapidly went into shock. If these cases had been seen in the summer, the diagnoses could easily have been made of cholera infantum.

Case 10, illustrating intense irritability.

Baby M., aged 18 months, sick for three weeks. During the first week there was irritability, slight fever, intestinal pain, some bronchial catarrh. Second week, nutrition bad, temperature occasionally below normal, cross and peevish. This condition of things obtained during the thiird week, the great continued irritability making it almost impossible for the parents to endure the care and responsibility. Convalescence was established during the fourth week.

Date and Duration of Epidemic.—In the light of a larger experience, I am now satisfied that I saw my first case of influenza, December, 7, 1889. This was a child seen in consultation where successive diagnoses of bronchitis, pneumonia and meningitis had been made. Notwithstanding these and the heroic medication internally and externally and in every other way possible, the child fortunately made an excellent

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recovery. The height of our first epidemic during 1889 and 1890 was reached about the middle of February. The epidemic of 1891 commenced about the first of the year reaching its height about the middle of February. The largest number of cases in 1891–'92 was between December 15th and January 15th.

Age.—No age is exempt from the ravages of this infection. There is at this time no doubt but that nursing babies three or four months of age feel its influence. One observer says the younger the child the more severe the grippe. A great amount of additional testimony has been accumulated during the last year regarding this disease among the young. Dr. Townsend of Boston has placed on record a case where the mother had an attack of influenza about the time of her confinement, and her child within a few hours after its birth began to sneeze and had all the symptoms of grippe. A case is on record in the *British Journal* of an infant who died on the third day from grippe. That very young children are affected and very seriously so, there is not a particle of doubt. That it is difficult to diagnosticate influenza in very young children I do not deny, but it is fair to suppose that when the infection is present in the house and parents and nurses are under its influence, if children present unusual symptons of temperature, exhaustion, the greatest possible prostration, and the involvement of one of the three systems which are usually selected by this infection, that the disease is due to the poison of influenza. Influenza as it occurs in robust life produces extreme prostration. Almost every practitioner has seen cases which have been followed by death, where, without the presence of some poison which produced great prostration and a tendency to weak heart, the patient would have passed through without a fatal result. In my experience not many of the very aged have succumbed to the disease, although I

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can not see any reason why their diminished vitality should not cause a great mortality.

Channel of Infection.—The exact point at which the infection gains entrance to the system has probably not been ascertained. That it may enter through either the lung or the alimentary canal there is probably no doubt, and that these are the usual points of entrance is probably true. Dr. Thorn believes that the conjunctiva is the structure which the infection of influenza generally attacks.

Incubation.—This may be only a few days, possibly only a few hours, or the influence of the poison may be felt for weeks before the active development of the disease. Dr. Parsons, who has made an extended report, believes, however, that two or three days is the usual time of incubation.

Influenza and Diphtheria.—The analogy between the remote effects of the poison of diphtheria and influenza is very close, and the pathological findings in the last-named disease may be quite as numerous and significant as we have already found in the former. We probably can not say that we know the exact cause of influenza, but we are certainly warranted in assuming that there is a most profound toxic effect in influenza as well as in diphtheria. The depression is profound, and in many cases the recovery slow and tedious, and the evidences of involvement of the nervous system, as noted in the different paralyses and neuralgias, are significant. The action of these two poisons upon the heart is quite similar. We have noticed in some cases the slowness of the pulse, its irregularity, and in some instances death, which we could ascribe to nothing less than degeneration of heart muscle. I have no doubt that we shall find the same evidence of nerve change that we have found in diphtheria.

Dr. Thompson in a course of lectures at Gresham College has also called attention to the similarity between the nervous sequelæ of influenza and those of diphtheria. He

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states that in diphtheria the paralysis is motor, while in influenza it is essentially sensory. He calls attention to the symptoms referable to the lungs, stomach and heart as suggesting the action of the toxic agent upon the pneumogastric nerve.

Complications.—Time will not permit me to speak of the numerous and varied complications observed in almost every organ in the body. Their name is legion, and their manifestations extend to every organ and function of the body.

Among those which I have noticed, not yet recorded, is purpura. Of this I have seen four cases within the last three months, all in young people, attended with extreme weakness, and in all, evidences of prostration and more or less blood change.

Mr. T—— had influenza January 29, 1892, suffering with the usual depression, pain in the limbs and prostration. One week later a purpura developed, confined mostly to his lower limbs and arms. During the last three months there have been about twenty crops of these purpuric spots. It is fair to say, however, that he has had a slight attack of rheumatism, which I do not regard as necessarily a complication of the grippe; but the deterioration of tone in his blood-vessels and the peculiarity of his blood I do think are due to that disease.

Miss B——, aged 23, has not been well since May, 1891. Does not remember of having influenza, but probably did have it, as she has felt weak and prostrated. In October, 1891, noticed purpuric spots on her toes. This condition of things (purpuric spots) continued until January 11, 1892, when she had the grippe, affecting more particularly her nervous system. She then commenced to have epistaxis, which continued for nearly six weeks, not a day elapsing without its occurrence. She is now under a course

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of tonic treatment with travel, and slowly but certainly improving.

Complications. Glandular enlargements take place with frequency, and tenderness of glands is of rather common occurrence. Inflammation of the parotid gland, simulating mumps, has developed, and in one case the glands of the throat in the vicinity of the bronchial tubes became swollen and tender. Abscess of the antrum has also taken place, and the connective tissue of the neck has become sensitively affected. Tuberculosis and tubercular meningitis followed in a few cases. Indeed, Unger makes the statement that these tubercular complications are particularly to be feared.

Hyperpyrexia, without evidences of local involvement sufficient to account therefor, and of a recurring nature, I have observed, particularly in one case wherein the body heat repeatedly went to 105 degrees F., and in which the illness continued over a period of two or three months.

Dr. Boerne Bettman, of this city, kindly informs me that he has most frequently observed a simple conjunctivitis, similar to that seen in scarlatina and measles, and that he considered such condition secondary to the rhinitis accompanying the influenza. This observer also found many cases of catarrhal inflammation of the middle ear, resulting, in a few instances, in perforation of the membrana tympani and profuse discharge. In most cases, however, there was not more than a condition of congestion of the drum membrane, which readily yielded to treatment. In neglected cases of both ocular and aural disturbances very much more serious results subsequently occurred, more properly classified as sequelæ than complications.

Otitis becomes at times not only a life-threatening complication but a malignant one. It is believed by some of the

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investigators that in conjunction with pyæmia and meningitis from empyæmia of the frontal sinuses, it presents the most frequent cause of death after pneumonia.

Diseases of the skin have also been noticed, such as, more particularly, erythema, herpes, urticaria.

Among the more general diseases noticed, have been rheumatism, nephritis and periostitis. Children having a tendency to rickets have been found to develop the disease with greater frequency and readiness after having an attack of influenza.

Among the aged I have noticed more particularly a general prostration, a failure of nutrition and an impairment of nearly every organ in the body, to such an extent that loss of flesh and shortness of breath become more prominent symptoms, making the lives of some of these people those of great suffering.

I desire at this place in my paper to call particular attention to two symptoms which have been noticed to a considerable extent by myself in this disease. It is possible that it belongs more particularly to the description of general symptoms, but it may appropriately be introduced at this place. I refer to subnormal temperature and the loss of weight.

Subnormal temperature.—During the epidemic of 1891 my attention was called a few times to subnormal temperature. During the last epidemic, that of 1892, my observations have extended to some fifty cases, and I have noticed in as many as six children, daily, a temperature varying from one-half to two degrees below normal; and yet they were not sick enough to prevent them from playing around the house. In one case the highest temperature which I could get in the axillary space was 93°, which continued for three days with no other apparent symptoms. The pulse in several of these cases was not

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disturbed in the least, and many of the children appeared normal in every other respect.

Subnormal temperature has been noticed by Straussmann (*Arch. f. Kinderh.*, xiii., 1 and 2). This is produced by the infection affecting the general nutrition in such profound degree, the imperfect action of the lungs, which is present in so many cases, and the general depression of the vital forces.

Taking this symptom in connection with the one I recorded in my first paper, quoted from Hansen, we have two symptoms which show, it appears to me, the resistance which is necessary to be expended to oppose the development of this disease.

Loss of weight.—Hansen says: "In the asylum for deaf and dumb, at Copenhagen, all scholars are weighed daily. The figures do not give the weight of the individual child, but of groups. In 1889 the curves were usual. From November 22d to December 21st, 1890, the usual increase in bodily weight ceased, in girls entirely, in boys there was only 200 grm. instead of the usual 700 grm. per month. In feeding and all local conditions there was no change during this time. *Influenza was prevailing at Copenhagen during this period.*" The author's conclusions were that this peculiar standstill in the normal weight represented the conflict between the influenza poison and the subjects, and that all had the disease, *although none of them showed other signs of its presence.*

Diagnosis.—From simple catarrh *la grippe* will be recognized from the fact that there is greater prostration, that the disease continues for a longer period of time, and we appreciate that we are in the presence of an epidemic. The temperature is higher, and there is a tendency for the catarrh, which is at first local, to rapidly spread to other parts of the body. A severe and irritating cough, which

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resists all methods of treatment, if it occurs during an epidemic of influenza, should be classed as *la grippe*. A mild catarrh with rather severe neuralgia, with pain in the head and limbs, should also be included, and the same may be said concerning an irritable stomach with diarrhœa, particularly if we are sensible of an epidemic prevalence.

The disease is to be distinguished from typhoid fever by the fact that in influenza there are no rose spots; swelling of the spleen is unusual, and the catarrhal difficulties, particularly of the respiratory tract, predominate above all other symptoms. If diarrhœa exists, as it does in many cases, it will be noticed that a cough and a catarrhal state of the air passages has preceded its development. The fever in influenza is irregular, while in typhoid it has a course nearly diagnostic of the affection. Typhoid fever is rare in children under two years of age; influenza is rather frequent within these boundaries. From pneumonia, we differentiate by the absence of the usual physical signs, although at the onset of *la grippe* there may be every evidence of a pneumonia, yet in a few hours the localization has become diffused, and a genuine (and more or less general) bronchitis is the result. The presence of meningitis can usually be detected by careful observations of the eye, the rigidity of the muscles, and other symptoms nearly always present—although in my judgment the differentiation of meningitis from severe forms of *la grippe* is attended with trouble, and a diagnosis must frequently be held in reserve for some time. The different manifestations of tubercular disease which follow in influenza, will be made out by carefully watching the temperature and respirations, observing the influence on the general nutrition, and by the development of tubercles on the choroid.

'*Does Influenza Protect from Subsequent Attacks?*—This question has arisen in the minds of almost all practi-

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tioners, and while we have all seen cases where it seems as if there was a second or third attack, yet the question may fairly be raised as to whether the morbific element has ever been out of the system. It would be an interesting question for us to decide how many of our families infected in 1890 escaped during 1891. It would be a happy fact if we could state to our people that the first infection gives immunity from a second. If it follows the history of the other acute infectious diseases it appears to me that we may with some degree of truthfulness give this assurance, although we are all well aware that second and even third attacks of other infectious diseases do take place. I can state this, and I think others will agree with me, that many of those families particularly afflicted in 1889 did not devevelop the disease in 1890, and not one of those whose cases were given to illustrate and verify a paper presented at the American Pediatric Society last year, has had a recurrence.

Prognosis and Mortality.—The mortality is different in different epidemics, and the character of the epidemic must be considered the same as we do in other infectious and contagious diseases. Death takes place from almost every complication; in the main, however, it is exhaustion and bad nutrition that we have most to fight. It is claimed by some that apoplexy occasionally causes death.

The length of time consumed in the convalescence from this disease is rather wonderful. The pains and general weakness do not disappear for weeks, and, as I remark in another place, a fever may continue for months, and, without doubt, many of the sequelæ will remain for years, if not throughout the lifetime of the individual.

One significant fact which presented itself to me, and to which my attention has been later attracted in an examination of the literature bearing upon this subject, is that

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children do not usually suffer from this disease until late in the epidemic.

In the city of Chicago, closely following this terrible epidemic, which prevailed alike among children and adults, has followed a most severe epidemic of typhoid fever. Just what its relation to the previous occurrence of influenza may be I can not at this time state. Children were affected with *la grippe* and their general nutrition greatly reduced; then followed a large number sick with typhoid fever. Whether there was a direct relationship between the two diseases, or whether the systems were weakened by the first affection so as to make it more easy for typhoid to gain entrance, I reiterate, can not now be unquestionably stated. Dr. Foster writes me his belief that the poison of influenza so weakened mucous surfaces that the germs of typhoid had an easy and favorable nidus. It is hoped that future observations will enlighten us on this subject.

Somewhat in this line of thought, but not directly allied to my subject, is the question of premature births and abortions. An examination of the literature finds the statement that pregnant women—under the influence of epidemic influenza—are more liable to premature deliveries. It was noticed by some of my correspondents that rather an unusual number of cases aborted, and that premature labors were somewhat more frequent. I am certain that the prevalence of *la grippe* in the persons of our puerperal patients produced fever, which continued for many days, and that the catarrhal symptoms, with the irritating and relentless course, made their convalescence very slow and tedious.

Treatment.—In conclusion, I have no particular remedy or combination of remedies to suggest. Every physician will have his own group of drugs and will make his own individual recommendations. If the disease is of bacterial

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origin, then great care must be taken with regard to its prophylaxis. All handkerchiefs and cloths used by the patients must be immersed in some antiseptic fluid and all cuspidors and articles of furniture which come in contact with the germs which may produce this disease, should be carefully disinfected.

We should see these cases early, and in consideration of the fact that so many complications of a serious character are liable to follow, we should not consider them discharged from our care until they are fully recovered. We are liable as practitioners (I know I am), while we are passing through such epidemics as have visited us during these later years, and burdens are alike grievous to ourselves and to our families, to sometimes neglect to visit our patients frequently enough and so permit them to pass from our observation before they are fully and perfectly restored to a healthy condition.

Before speaking of any medication, I desire to say a word in regard to the municipal control of this disease. In view of what is known and what I have said in regard to the contagiousness of this disease, the great mortality which comes from it, and the immense money loss, it seems appropriate that some attention should be given to preventing the spread of this disease by our boards of health. I have said that it is a national calamity. It has been demonstrated time after time that this disease extends along the line of human intercourse and that isolated people often escape the disease. After a discussion of this question, the Prince of Wales, presiding at the late International Congress of Hygiene, said, "If preventable, why not prevented?"

As far as my observation has extended, there is no specific treatment for this disease, but I should say that a *generous diet*, with some stimulation and a conservation of all the strength of the patient, should be observed from the

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first—just as carefully as we give attention to these conditions in typhoid fever. For the general pain which pervades the entire system, nothing has given as good results, in the cases falling under my care, as phenacetine, either alone or in combination with salicylate of soda, and, in certain cases where the fever was high, and where the strength would allow it, moderate doses of antipyrin.

For the extreme fatigue and depression which both children and adults evince, milk-punch, with some of the effervescing waters, with small doses of quinine and a generous diet, seem to give the best results. Whenever quinine was indicated in children it was administered by inunction or by the rectum.

The plan of sending city children into the country has nothing to commend itself to me, for the disease raged with quite as much severity in the outlying districts as in our city.

If the catarrhal difficulties impede children from nursing, then their nutrition must be kept up by artificial means.

By way of conclusion, I feel that I cannot too strongly emphasize the necessity of conserving the vital energy of these sufferers when laboring under the very markedly depressing influences pertaining to this disease; I am thoroughly convinced of this point, and the value derived from carrying out this principle.

In children I would advise the early use of equal parts of whipped egg-albumen and sterilized water, with a little brandy and sugar, varying the amount of the alcoholic according to the condition, age, and individual susceptibilities of the patient. This should be exhibited often and with regularity, and in such quantity as to be readily assimilated. As the patient begins to pass out from the more painful and acute manifestations of the disease, there

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may be given, in addition to the generous diet, the compound syrup of hypophosphites, together with pepsin cordial and a little nux vomica. This more particularly in the way of a tonic, or "bracing agent." Where the lungs are particularly involved—and they often become so very rapidly—the more pronounced diffusible stimulants have an important place. Here the carbonate of ammonia is of service, also, aromatic spirits of ammonia, alcohol, camphor, and musk, and either or all are well fortified by the conjoint use of small doses of digitalis and nux vomica. In these lung complications the same general tonics and reconstructives may be used during the period of convalescence. Malt and hypophosphites, also, malt and cod-liver oil are first-class agents for this purpose. In the gastro-intestinal form even a greater degree of attention should be directed to the diet. Everything passing into the stomach should be simple and very easy of digestion—pre-digested, so far as can be. It often becomes necessary in children to avoid all milk, using instead rice-water with a little cream, and a small quantity of wine of reliable vintage. Where there is great or even moderate gastro-intestinal fermentation, large doses of bismuth, combined with a moderate amount of salol, have given the best results in my hands.

I have found some cases, more particularly in children, —the exact proportion to the whole number I have not determined as yet—where there was as profound and sudden collapse as appears in severe cases of cholera infantum; where, in a few hours, the patient would be placed upon the very border-lines of dissolution, demanding the prompt use of external heat, and the active diffusible stimulants.

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SECTION TWO.

SURGERY, SURGICAL SPECIALTIES AND OBSTETRICS.

CHAIRMAN, W. J. CHENOWETH, DECATUR.
SECRETARY, J. HOMER COULTER, CHICAGO.

THE ADDRESS.

The Technique and After-Management of Laparotomies.

J. H. ETHERIDGE, M. D., CHICAGO.

Mr. President and Members of the Illinois State Medical Society: When your Permanent Secretary notified me to be prepared to deliver an address in Surgery before this august body, I was impressed with the paucity of ideas upon general surgery that it has fallen to my lot to acquire.

My practical knowledge of this division of the subject of medicine has been restricted almost exclusively to pelvic and abdominal surgery for many years. It has occurred to me that it may not be without interest to prepare a paper upon this occasion that will deal somewhat minutely with the proceedings of general abdominal surgery.

I am at a loss to understand why such an experience in this line of work has fallen to me, but since it has come I have dealt with it to the best of my ability, and I now take great pleasure in giving somewhat in detail the preparation for the steps in and the performing of an ordinary case of laparotomy.

Within the past seven months, in the Presbyterian Hospital of Chicago, I have performed more than seventy laparotomies, and when the statement is made that they

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were without the occurrence of sepsis in any one single case, there may be expressed a justifiable gratification in recounting these experiences. Five of these cases have died, three from shock and two from intestinal obstruction. In the past fifteen years I have seen a great many patients die of sepsis, and looking back upon them I can but be most unpleasantly impressed with the thought that had our knowledge of aseptic surgery, in the early days of abdominal work, been as extensive and accurate as it now is, many women would be alive to-day who succumbed so speedily to the preventable inroads of the fatal micro-organism.

Permit me to take you in imagination with me to the Presbyterian Hospital, and to persuade yourselves that you are in that building as this paper is read.

Concerning the preparation of the patient beforehand, in this hospital, it may be stated that the nurse takes charge of her the day before the operation and subjects her to the following: First the pubic and vulvar hair is shaved; second a thorough scrub bath with soap and water is given, then the patient is washed thoroughly with a solution of the mercuric bi-chloride 1-3000 from the shoulders to the knees, afterward with a solution of alcohol or ether, and third is used an iodoform pad covering the whole abdomen, held in place with a binder which is permitted to remain from the night before until the operation the next day. The most extreme care is obtained in these preparations of the patient. We are always assured of the fact that the removal of the binder, after the patient is anæsthetised and on the table for operation the following day, by hands that are surgically clean, reveals the abdominal surface absolutely, perfectly prepared for the ordeal of laparotomy.

The instruments, needles and ligatures are boiled in the sterilizer for a space of half an hour just prior to the operation. They are removed from the boiler by surgically clean

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hands and placed in sterilized water, in a perfectly clear basin covered with an aseptic towel, to be uncovered only at the beginning of the operation, and handled only by the operator and the head surgical nurse. The hands of the operator and of his interne, and of the nurse who handles the sponges, are washed for a space of ten minutes with hot water, green soap and a scrub brush (which when not used is kept constantly in a solution of bi-chloride 1-2000), then in sterilized water, and afterward in a solution of bi-chloride 1-5000, and subsequently they are washed in pure alcohol for a space of five minutes. The utmost attention is paid to the cleaning of the nails and of their matrices before washing. After the washing the hands are permitted to come in contact with absolutely nothing except the patient, instruments, sponges and ligatures. A second nurse has charge of an aseptic sheet, for covering the patient, with an oval opening that exposes the abdomen, and of the sterilized towels wrung out of hot sterilized water and placed about the patient's abdomen. From the start to the finish of the operation these hands are permitted to touch nothing outside of the patient, instruments, sponges and ligatures. From time to time during the operation, as the hands of the operator and interne need washing, they are cleansed in hot sterilized water. It will thus be seen that the utmost respect is paid to the dictates of modern antisepsis.

When visitors are present they should either wear an aseptic gown, or should witness the operation at such a distance from the operator, internes and nurses, that they, in working and turning about, will not permit their hands in any way to touch the visitor's clothes. It is also well to bear in mind the golden truth that it is not so often what is *found* in the abdomen and pelvis that destroys the patient, as what is *put* into the abdomen by the hands, sponges or

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ligatures. It is a simple truth that the fluids of cysts are nearly always innocuous. Before taking up the scalpel it is always well to see that the assistant and nurses are ready to the very last degree with their instruments, needles, sponges, ligatures and dressings. Where one operates seldom it is quite necessary to see that the hands of all the assistants have been prepared with the greatest care. A dirty finger nail or matrix of one of these persons may defeat the whole operation.

The first incision is made about three inches long down through the skin and subcutaneous cellular tissue to the sheath of the muscle, which is grasped by two dissecting forceps placed very closely together, held by the operator and the interne, raised and quickly divided the entire length of the wound, without injuring the muscular fibres beneath.

The cellular space between the pyramidal muscles is sought, seized and quickly raised with the forceps and divided with the scalpel, the bottom of the incision being again seized with the forceps, raised and quickly divided until the peritoneum is reached and opened. The first opening of the peritoneum thus made is not more than half an inch long. Its edges are seized and raised with the dissecting forceps while the forefinger of each hand of the operator is thrust into the opening and separated forcibly, thus tearing the peritoneum until it is enlarged to about two inches in length. When needed, in many cases, numerous blood vessels are seized with the snap forceps as the incision is made. It often occurs that there is no bleeding from these blood vessels to require the snap forceps. This aspect of making the laparotomy incision varies to such an extent that I have had anywhere from ten snap forceps on bleeding vessels down to none whatever. Whenever the vascularity of the abdominal wall increases as the incision is carried forward, it is safe to infer that the peritoneum is

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adherent to something beneath it. Accordingly when encountered, the rapidity of progress is very much impeded. Immediately upon making the opening into the peritoneal cavity, the hands are washed thoroughly in sterilized water which is conveniently near. Two fingers of the left hand are thrust into the abdomen for the purpose of exploring. Whatever is encountered is treated *secundum artem.*

After the peritoneum is opened, among the principal things that the operator will have to deal with are the following: tympanites, adhesions, ruptured closed cavities, the management of pedicles, controlling hemorrhage, drainage, toilette of the peritoneum and the closing of the abdomen.

"In the manipulative part of the operation, absolute precision and exactness, as far as hands and material can secure these, are necessary to the most perfect success. Not only must no part of the work be hurried over or scamped but every detail must be finished and rounded off with a thoroughness as minute and genuine as if that detail were the turning point of success, and practically it is a fact that imperfect attention to almost any detail may result in a catastrophe." (Greig Smith.)

Oftentimes the first thing that is encountered is tympanites to such an extent that it is necessary to protect the bowel from exposure and injury. A large flat sponge tucked into the abdomen in front of the intestines ordinarily answers the purpose. It is very rare that it becomes necessary to enlarge the incision above the umbilicus, or to turn the intestines out upon the abdomen for the purpose of proceeding. When eventration is necessary an abundance of hot towels should be placed under, around and above the intestines, and it should be the duty of one person to keep these towels continually hot.

It is of vital importance that the intestines should be handled with the greatest of care in all manipulations and

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procedures. Roughness and violence are not to be tolerated, while tenderness and celerity in protecting the bowels from exposure are to be cultivated.

The separation and management of adhesions comprise the most of the difficulty in removing abdominal tumors. When visible their separation is comparatively easy. When they lie deep in the pelvis and are out of sight, they are managed with difficulty, and often with danger. Adhesions to the omentum are the most easily dealt with. They bleed profusely at first but are the most easily controlled by pressure. The free use of the catch forceps will oftentimes enable us to dispense with ligatures.

Adhesions to the bowels and pelvis or to the liver or diaphragm are the most difficult of all to manage. Undue violence in separating adhesions is almost never justified. It is always best, when the adhesions are indistinguishable, and we fear lest we might wound vital parts, to enlarge the abdominal opening sufficiently to expose to full view the adhesion to be separated. The minute fibrous bands of adhesion can be easily detected in most instances by vision, when the separation can be accomplished with the finger or with a blunt instrument, as the handle of a scalpel. The enormous advantage of using the Trendelenburg position in operating is obvious in crowding the intestines upward toward the diaphragm, and in exposing completely the tissues of the pelvis to complete vision. Slight adhesions are best separated by brushing them off with a sponge; firmer ones must be separated with the fingers. The large bands can be divided by scissors between two pairs of catch forceps. Less than one-third of the vessels compressed by forceps in these adhesions require ligatures.

Whenever any tumor is universally covered with numerous and thick adhesions, the best method of enucleation is that first described by the late Dr. Parkes, which consists of dis-

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secting through them to the base of the tumor—a procedure oftentimes most difficult of accomplishment without opening the sack—and then peeling the adhesions off from their origin to their terminations in one broad sheet or mass. Whenever the attempt is made to reverse the process of peeling them up from their periphery to their origin, we encounter layer after layer of adhesions which must be separately dealt with, thus prolonging the operation to an unfortunate extent.

When the adhesions have been separated and the pedicle is ready for the ligature, my custom is to take a long silk ligature, in the middle, in the end of the jaw of a long narrow forceps, and to thrust it through the least vascular spot in the pedicle. It is then divided, thus giving two ligatures through the middle of the pedicle. Each half of the pedicle is tied in one of these ligatures, which has been crossed with the other before tying. Afterward each ligature is crossed under the other and tied securely around both halves of the pedicle, thus each half of the pedicle is secured by three ligatures. Before dividing the pedicle, a snap forceps is made to take a small bite of the pedicle beneath the ligatures so as to prevent its slipping back into the pelvis sooner than desired. A sponge is then tucked into the abdomen down under the ligatures so as to catch any objectionable fluid, which may flow from the divided ends, and with the scissors the pedicle is divided above the ligatures. After the ligatures are cut off the pedicle is severed. Then the stump is slowly eased down into the pelvis to see if its relaxation is followed by any hemorrhage. If not, the forceps are removed and the sponge is taken away.

In subsequent manipulations, it is vitally necessary to avoid pushing the ligature off the pedicle that has been dropped back into the abdomen or pelvis. Carelessness in this particular oftentimes results in the starting up of a

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furious hemorrhage. I have seen this accident occur repeatedly. It is unnecessary to state that hemorrhages thus occurring of any magnitude, add greatly to the shock of the operation and diminish the patient's chance of recovery.

When the accident has occurred of opening one of the closed cavities, as the bladder, intestines or stomach, it is necessary to give immediate attention to it. The edge of the opening should be seized and raised well out of the abdomen, and gauze sponges tucked about it entirely preventing its contents from running into the abdomen. Suturing this opening is a proceeding as difficult and tedious as it is important. Whatever method is accepted, of the thirty-three distinct methods advocated, it should be thoroughly and skillfully followed, for upon this procedure depends more than upon any other detail, the success of the operation. Sutures that are not absolutely pure will cause suppuration. Tying the suture too tightly will cause sloughing. The best of all suture material is fine Chinese silk twist. No suture passing through the peritoneum should penetrate the mucous membrane. It is needless to say that the needle used should not have cutting or spear edges. The operator must decide whether he will use the continuous or the interrupted suture. Each one has its advocates and brings perfect results when skillfully used. The best of operators will have these accidents of opening closed cavities come to him, at some time. I have seen the bowel torn open, I have seen the stomach, depressed into the pelvis, torn open, I have seen the bladder opened many times, once I saw its fundus amputated, once I saw the entire organ amputated. All of these accidents occurred in the hands of skillful men.

The management of a hemorrhage constitutes no small factor in many laparotomies. It requires coolness on the part of the operator, and a fine knowledge of the anatomical sources from which it may come. This is

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one of the most appalling features of this kind of work. Operators with limited experience are very likely to become demoralized in dealing with it. The first thing of all to do is to determine its source. This is best done by rapid sponging and bringing the bowels well up out of the pelvis to find whence it comes. A little blood will usually make a large showing; the abdomen will seem to be filled with it, because this cavity is filled with intestines and the fluid is forced at once to the opening, presenting the appearance of a small lake of blood, when perhaps there is not to exceed half an ounce to be sponged away. As soon as the pelvis has been cleared of intestines, being held up by the hands of an assistant, aided with a large flat sponge, the bleeding vessels can be easily detected; if the vessel be large it is clamped with a long forceps, then sponging is continued in order to detect bleeding from other vessels. It is best to seize all vessels before using ligatures. When the vessels can be drawn up and ligatured, stopping the hemorrhage is easily and quickly done. But when it comes from large vessels developed in the bottom of the pelvis, in the course of adhesions, we have to deal with the most difficult manipulative procedure in all abdominal and pelvic surgery. Lost vessels must be encircled with a stout ligature carried under them, with a curved stout needle, and then firmly tied and cut short. Occasionly it happens that it is impossible to ligature such vessels, and then our only resource is to clamp them with a long forceps, leaving it in the pelvis for twenty-four or forty-eight hours, closing the abdominal incision about it. When we are compelled to resort to this means of hemostatics we incur the risk of producing fecal fistula by the presure of the intestine against the forceps.

The last thing that is done before closing the abdomi-

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nal wound is to carry a small sponge in a long-jawed forceps with the greatest gentleness down to the bottom of the pelvis and deep into the flanks. If it is withdrawn without evidence of hemorrhage, we may feel reasonably sure in completing the operation. Occasionally it will be found that broad surfaces in the pelvis, and upon the posterior wall of the bladder or the uterus, will present an oozing which can not be stopped with ligatures. Formerly hemostatic drugs were used, notably iron, and only too often with fatal results. To-day the most common treatment of such oozing surfaces is the Mikulicz drainage.

Concerning drainage it is difficult or perhaps unwise to speak dogmatically. "When in doubt, drain," is a good motto. More cases have died from its lack than from its practice. The tube should be neither too long nor too short. It should be crowded to the bottom of the Douglas pouch without producing pressure on the rectum. The cases most benefited by drainage are those where there have been deep pelvic adhesions, whose subsequent bleeding and oozing it is extremely desirable to remove. Where septic fluids escape into the cavity, or where we anticipate excessive secretions of fluid, or when in doubt as to the efficiency of the toilette of the peritoneum, drainage should be used without hesitation. A word as to the management of the drainage tube may not be superfluous. A drainage tube filled with sterilized gauze constitutes an efficient means of removing the fluid. When no discharge occurs from the tube it is well to remove the gauze and to exhaust from the bottom of the tube with a little rubber tubing attached to a syringe, thus drawing in through the little holes at the end of the drainage tube any clots that may obstruct them. If two or three exhaustings with the syringe be fruitless the drainage tube may be removed. It is perhaps needless to state that all manipulation of the

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drainage tube should be executed with surgically clean hands.

The tube is removed in twelve, twenty-four, forty-eight, seventy-two hours, or whenever there ceases to be any discharge. The loop stitch which stands opposite the drainage tube is then tightened, and the entire wound covered with a proper dressing The Mikulicz drainage properly used is one of the most satisfactory methods of removing fluids from the abdomen that we have. It consists of a piece of iodoform gauze, say eighteen inches square, the center of which is tucked down into the bottom of the cavity where we desire to use it. Its free edges are spread over the abdominal wound like a funnel and into it strips of sterilized gauze three or four inches wide and two or three feet long are crowded until we have the cavity sufficiently filled. One end of each piece of the sterilized gauze is left out of the abdominal opening and when the packing is complete the periphery of the iodoform gauze, together with the long ends of the sterilized gauze, are tied together as one ties the mouth of a grain sack. The whole mass is brought outside of the incision. It is left in as long as is necessary, which means so long as there is any fluid escaping from it. When it yields no more discharge the ligature around it is cut and piece after piece of the sterilized gauze is gently withdrawn, until the large piece of iodoform gauze remains alone, which is then drawn out by gently pulling at one edge of it until it is removed entirely from the abdomen. It is a grave mistake to leave the drainage in after the discharge from it ceases. When it is permitted to remain for days and weeks suppuration is liable to occur from infection from without and the patient is liable to die of secondary septicæmia. The collecting and removing discharges requires great care. The collar of the tube should be encircled by a rubber cloth, absorbent ma-

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terial should be placed over the end of the tube, the rubber cloth folded over it and pinned to the distal end of the cloth, then placed between the thighs, and from it, in some receptacle, the fluids can be collected. It is poor practice to remove the dressings frequently to see if drainage goes on. By watching the end of the rubber cloth gutter one easily determines whether the discharges have ceased. When the Mikulicz drainage is used, its outer end can be encircled by a rubber cloth and the discharge collected. The usual length of time of leaving the drainage tube or the Mikulicz drainage, is from twelve to seventy-two hours; the latter length of time being usually the maximum. Nearly all drainage tubes are removed within twenty-four hours. The Mikulicz is best used when entensive oozing surfaces are exposed, where cysts can not be removed and must be drained, and in cases of enormous abscesses, whose opening has been stitched to the abdominal wall. In cases of cysts that can not be removed, a large piece of gauze drainage is sometimes used for weeks and months, it being removed every twenty-four or forty-eight hours and the cavity flushed out with hot sterilized water, and repacked.

The toilette of the peritoneum is simple or complicated according to what has escaped into its cavity. This is one of the most important steps in the operation. When no blood has escaped into the cavity the crowding of one or two sponges, with suitable sponge-holding forceps, into the Douglas pouch and into the hollow of the loins, will show, upon their removal, that the peritoneum is absolutely clean. If glutinous or semi-solid foreign matter be present, the most complete and exhaustive flushing of the abdomen and pelvis is resorted to. An irrigating reservoir of four gallons' capacity, and a rubber tube with a lumen of one-half inch raised two or three feet above the patient

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will serve the purpose. The end of the tube is carried to the Douglas pouch. The great force of this hot water will wash up out of the pelvis every particle of matter that it is desired to remove. In flushing the abdomen the wound is closed with one hand while the fingers of the other hand agitate the intestines, thus cleansing them absolutely. Subsequently the water is removed from the abdominal cavity with sponges. In removing this fluid one can easily illustrate the result of sufficiency and excess. Rather than go on using the sponges deep down in the pelvis so long as a few drops of fluid can be squeezed out, I think that it is much better not to possibly irritate the intestines by too much use of the sponges, but to depend upon capillary drainage through the drainage tube filled with gauze left in situ. In cases of prolonged operation and collapse one can oftentimes but be impressed with the stimulation of the flagging powers of the patient by the heat of the water that is used.

The conspicuous advantage of irrigation is that it will always detect hemorrhage, a very small quantity of blood making itself apparent in the water.

When everything is ready for closing the incision it is well to take an invoice of the number of sponges and instruments. A few years ago Dr. Wilson, of Baltimore, read an article before the American Gynecological Association, on the subject of leaving foreign bodies in the abdomen after laparotomy. The number of instances which he cited of sponges and forceps thus left was simply astounding. Accordingly, it is a wise plan to be absolutely sure that the number of sponges and instruments tallies with that before the operation. I have repeatedly lost sponges which the ever-vigilant nurse who has charge of them has enabled me to remove from the abdomen after frequent and very prolonged search. If the operation has

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been a long one, lost sponges are liable to be found up under the diaphragm. It is needless to say that we must find these foreign bodies and remove them, no matter how long it takes. I recall one instance where a sponge was lost that took me more than twenty minutes to find. I recall one instance where a sponge was found upon making an autopsy. A friend of mine once had a similar experience with a pair of forceps.

When everything is ready for suturing the incision a large sponge is pushed into the abdomen beneath the opening to prevent wounding the intestines.

The method of introducing sutures is unimportant provided the material used is surgically clean. Out of respect to the idea that the peritoneum may be infected by inserting the needle from without inward, I have used for a long time a needle upon each end of the suture, each needle being introduced from within outward. Of late I have made use of a large Hagedorn needle, introducing it from without inward on one side, and within outward on the opposite side. The advantages of this needle are its curve, its stoutness and its large eye. Chinese silk, only, is used in suturing. The entire abdominal wall, skin, muscular tissue and peritoneum are included in one sweep. I have sutured the peritoneum, muscular tissue and skin separately, but am not at all pleased with the results as compared with the single suture. I make the suture penetrate the skin about one-fourth inch from the incision, curving it backward and outward, so as to make the entire bite of the suture include at least an inch of the peritoneal surface. It has seemed to me that I have seen more cases by this method of complete union of the cutaneous surface, without gapping, than by including more skin in the ligature. The sutures are placed about one-half inch apart, thus doing away with intermediate stitch-

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ing. After the sutures are cut off the abdomen is cleansed, dried, and the entire wound and sutures are buried with a dusting powder composed of equal parts of boric acid and iodoform. Loose iodoform gauze is then placed on the wound, a broad layer of sterilized gauze over that, then a thin layer of cotton, all held in place by an abdominal binder with its perineal straps. After putting the patient to bed the wound is not uncovered until the seventh or eighth day, when the stitches are removed. If stitch-hole abscesses occur I always blame myself for a faulty technique or unclean sutures.

The utmost care is maintained after the sutures are removed from the basin to avoid touching anything with them that is not absolutely clean. Before using them fresh aseptic towels are placed about the entire wound. The end of the suture that is not held aloof by the needle-holder is not permitted to touch anything but these towels. I recall seeing an operator who would permit the suture to come in contact with his soiled gown, holding and handling it needlessly, and he almost invariably had one or more stitch-hole abscesses. Usually, we remove the sutures on the eighth or ninth day. If I have stitch-hole abscesses in two or three consecutive cases the entire manipulation of the ligatures before using them is revised and the faulty step eliminated. Since last October I have done over seventy laparotomies without a single stitch-hole abscess. It is needless to say that the preparation of the ligatures, from the moment of their purchase until used in suturing, is carried out without abating one jot or tittle of the care in preparing them.

A few words concerning the after treatment. The patient is put to bed on her back, surrounded by hot water bottles, and every attention is immediately given to allay shock and collapse. During the time of the operation hot

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water bottles are placed in the bed in order that the patient may be surrounded by heat. Hot water bottles surround the feet, legs and flanks. During the first few hours, twelve or more, the patient is kept rigidly upon the back, with a pillow under the knees if desired. If she is content to remain thus for twenty-four or forty-eight hours, it is not suggested to her that her position can be changed. If remaining quiet become irksome or make her restless, she is turned upon her side with supporting pillows under her back. After the first twenty-four or forty-eight hours the patient is permitted to be turned as often as desired. Where the luxury of two beds, one for night and one for day, is indulged in, the patient's comfort is greatly increased.

It sometimes occurs that when the drainage tube is used the patient will have a fixed, gnawing, unremitting pain in the lower part of the back, which nearly makes her wild. It is always well to bear in mind that such a pain may arise from pressure on the end of the tube against the parts beneath, when it will be found that withdrawing the tube a fraction of an inch will cause the pain to disappear.

During the first twenty-four hours we have the possibilities of shock, collapse and hemorrhage to anticipate. Where shock and collapse follow a very severe operation, or when there has been much loss of blood, the foot of the bed is elevated and about a drachm of deodorized tincture of opium in a coffee cup full of black, strong coffee is injected into the rectum. The cardiac stimulating properties of these two agents in shock and loss of blood are well known.

The evidences of hemorrhage consist in the increase of the rapidity of the pulse, its becoming thready and wiry, in sweating, and that terrible restlessness, leading in many cases to violent delirium and, often, convulsions, so well

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known to the surgeon. Where the drainage tube has been used, the diagnosis is made without difficulty because of the escape of blood through the tube. If the hemorrhage be severe or evidence of exhaustion supervene, reopening the abdomen is imperatively demanded.

When we do not encounter shock, collapse and hemorrhage, the first thing that engages our attention is pain. It is my custom to make use of a hypodermic injection of one grain of codeine immediately upon putting the patient to bed. I do not repeat it for pain unless there be a very urgent indication therefor. I think it better to encourage the patient to endure the pain for the reason that if peritonitis develop, the well-known effects of opiates in paralyzing the intestinal muscle, thus favoring tympanites, will interfere with the successful treatment of this condition by drainage through the bowels with salines. I think the habitual employment of opium is to be condemned, because the patient is always better and brighter without it. The one indication for the use of opium, not the initial dose, is restlessness with jactitation.

After the operation, vomiting is one of the most troublesome symptoms. If it persist after a period of ten or twelve hours, it is best to begin feeding the patient by rectum with food and stimulants. During the first ten or twelve hours after the anæsthetic we expect the vomiting as its legitimate consequence.

That form of vomiting that does not arise from tympanites nor peritonitis nor fermentative dyspepsia, the form of vomiting that we may call nervous vomiting, perhaps, can be held in abeyance by the nurse in attendance rubbing the patient's lips with a piece of ice. There seems to be an inhibitory action exerted upon the vomiting center. In such patients the most absolute quietude should be maintained, the nurse only being present. Friends running in and

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standing about the patient will only tend to perpetuate this vomiting.

If persisted in after twenty-four hours, accompanied by tympanitis, we are assured that vomiting does not arise from the anæsthetic, especially if the vomited matter is tinged with bile, when it is best to give the patient a large draft of diluent, and to increase free vomiting which may bring relief for several hours. It is well to know whether or not the patient is a victim of chronic vomiting before doing the operation, indicating thus the presence of chronic fermentative dyspepsia. In such cases it will be necessary to resort to gastric lavations. In persistent vomiting the administration of fluid by mouth must be stopped and the patient sustained entirely by rectal feeding. Where rectal feeding is kept up for several days, the large intestine should be thoroughly washed out at least once in twenty-four hours, and the rectal tube often inserted to relieve the accumulation of gas, thus encouraging its escape from the small intestines down to the large intesting. Where vomiting persists, we have grave reason to fear peritonitis, for with its continuation we almost invariably have intense tympanitis. There is no more formidable combination of symptoms to deal with than vomiting, tympanitis and peritonitis, which Greig Smith calls, "The furies of abdominal surgery." From this combination we have more deaths than recoveries.

In dealing with peritonitis I believe the better treatment to be by far draining through the bowels with salines. Opium arrests pain but favors tympanites. A free purge will relieve the bowels of great quantities of gas and fluids thus taking away the engorgement of the intestinal tract. Oftentimes a dose of hunyadi water, epsom salts, or a seidlitz powder, or two drachms of sodium phosphate in hot water, will put an entirely new aspect on the case. It

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will often be found that free purging is an excellent substitute for draining. Where a free diarrhœa can be secured vomiting nearly always ceases. It relieves the tympanitis which undoubtedly produces vomiting. Very often it will be found that the use of ox gall in hot water injected into the bowel in as large quantity as it can contain, will incite enough peristaltic energy to bring away large dejections of fecal matter and gas, thus putting an entirely new aspect on the patient's outlook.

I recently saw a case of the removal of both tubes and ovaries, which went badly from the moment the patient was put to bed. At the end of forty hours her temperature was 104° her pulse 148, tympanites was extreme, jactitation excessive, extremities cold and clammy, and she was snatched from the jaws of death by the untiring, persistent efforts of a trained nurse experienced in the care of such cases. The patient was vomiting everything put into her stomach and there seemed almost not a ray of hope. The nurse was given to understand that the only possibility of saving this patient was to make her bowels move. She persisted in using large enemas containing turpentine, castor oil and ox gall and at the end of fifty hours after operation she succeeded in securing bowel movements. The patient passed enormous quantities of gas and fecal matter and in the morning her temperature had fallen to 100°, the restlessness had ceased, the tympanites had nearly disappeared and the patient ulitmately made a good recovery. I was astonished beyond expression to see the miraculous change in this patient following free catharsis.

In these cases one of the most comforting things to the surgeon is to learn that the patient has passed gas freely from the bowels. If it be passed freely and in large quantities it is an evidence that the peristaltic movement of the small intestine is still active. If only very minute quanti-

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ties of gas pass, showing that it comes only from the colon, the outlook is extremely gloomy, because it indicates the more or less complete cessation of the peristalsis of the small intestine. In this condition the microbic invasion of the peritoneum through the walls of the intestine goes on with frightful rapidity. The more it develops the more easily the intestinal muscles become paralyzed. There always comes a point in the development of this paralysis beyond which it is absolutely impossible to rescue the patient, consequently the vital importance of preventing over-distension of the intestine must be apparent to the surgeon.

In all cases it is my routine practice to secure a bowel movement in the third twenty-four hours at the latest. Where no unfavorable symptoms develop, it is easily secured with cathartic enema. The ones that I generally use are a combination of turpentine, castor oil and inspissated ox gall, and these will usually answer every purpose. When enemas do not answer, cathartics by the mouth are used. Many surgeons use four grains of calomel every three hours until catharsis is secured. In addition to the cathartics, turpentine enemas with the addition of castor oil are oftentimes exceedingly serviceable. I am free to confess that only too often have I entirely failed to secure free catharsis and relief in these cases. When we do succeed in catharticising we relieve the vomiting, distension and restlessness, and the next day behold the patient with all urgent symptoms in abeyance, but very weak from the frequent dejections. We can then use stimulants freely, and we feel that the patient is practically out of danger. At each visit after a laparotomy it is my custom to slip my fingers under the abdominal binder, over the *scrobiculus cordis*, keeping track thus of the beginning of tympanites, which seems to show itself first of all in the transverse colon. In peritonitis the pulse and temperature are liable to separate. When the pulse

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goes up and the temperature remains stationary or falls, the prognosis becomes more and more unfavorable. It is no uncommon thing in these complications for the temperature to go no higher than 100, while the pulse rises higher and higher, the face presenting a pinched expression and the restlessness increasing. If after this the pulse goes still higher, reaching 135 or 150, and the temperature descends to the normal or becomes sub-normal, death almost always ensues.

Bacteriology has shed a flood of light on the pathology of peritonitis in the last decade. The initial departure from a healthy condition easily arises from some septic material introduced into the peritoneal cavity at the time of the operation.

Our views concerning the susceptibility of the peritoneum to take on inflammation have undergone such a change in recent years that we scarcely recognize the literature on this subject of twenty years ago. Then the peritoneum was regarded with the utmost awe. To touch it or to open it was regarded with so much fear that but few men had the courage to attempt surgical operations on it. Of late we have learned that it is apparently more tolerant of insult than other serous cavities or common subcutaneous tissues.

"The explanation of this condition is to be found in the character of this membrane, and the conditions that obtain when pyogenic organisms are introduced into it. And first of all comes into play its wonderful capacity of absorption, by which micro-organisms are deprived of their necessary nutrient fluid, along with which, as it returns to the vessels, it is quite possible they may pass into the circulation to be there destroyed." (Park.)

The capacity of the sound peritoneum for absorption of innocent fluids is simply astonishing. Experiments show

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that micro-organisms can be introduced into the peritoneal cavity in large quantities, and yet can be absorbed into the circulation, there to be destroyed, without setting up peritonitis. Injections of relatively too large amounts, that the peritoneum is incapable of absorbing, are surely and rapidly fatal. In complicated laparotomies the peritoneum absorbs these foreign organisms readily. When ascites is present it offers a fine culture field for the growth of bacteria, and increases the danger of peritonitis. It is now well established that there are at least three different forms of peritonitis:

First, an *aseptic* peritonitis, in which there is no bacterial infection. It is usually local, sometimes generalized. It progresses to exudate and possible adhesions.

The second variety is a *specific* peritonitis. In this variety we find tubercular and gonorrhœal peritonitis.

The third form is a *septic* peritonitis. One form of which is a *puerperal*, the other is a *putrid* peritonitis. It is the last form, namely, the *putrid peritonitis*, that we have to deal with. It is usually post-operative and is a mixed infection. It begins *without* a chill, with fever, which gradually arises, and is characterized by a putrid, ill-smelling exudate. It is the result of putrefaction organisms which were introduced at the time of the operation and quickly work their evil effects. The febrile symptoms are mainly due to ptomaines. The disease is spread locally by means of the bowel, that is, by peristalsis. In the most rapidly fatal cases, we find in the peritoneal cavity a thick, flaky, yellowish fluid, which if removed by aspiration immediately after death has no odor. It contains fibrine flakes, endothelial and pus cells, and streptococci; these latter are found as well in the genital tract, in the blood, and in most of the internal organs. This fluid is extremely infectious, a fraction of a drop injected in the abdomen of a rabbit sets

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up a violent commotion which is fatal within twenty-four hours." (Park.)

One of the earlier symptoms of septic invasion is the supervention of tympanites, which progresses with such extreme rapidity that within a few hours complete intestinal paralysis is developed. With this paralysis there exists a migration of micro-organisms from the intestinal canal, which add their virulent force to the terrible invasion of the peritoneal cavity, pre-existing. As a consequence of this, we always have severe tympanitis occurring within the first forty-eight hours after operation, which we view with great fear. When large watery bowel dejections can be secured, there is promoted an absorption into the intestine of the bacterial elements of the peritonitis which would seem to give us the only promise of arresting death. A perfectly sound peritoneum therefore, offers us the best promise of a favorable result. The peritoneum that has been attacked or that is already weakened in resistance at the time of the operation, favors the absorption of germs and lessens the chances of the recovery of the patient. Aseptic operating comprises virtually the exclusion of the majority of organisms, but we are reduced to trusting to the resistance of the tissues to dispose of those not excluded. Ordinarily such microbes as enter the abdomen are killed by the cells or fluids in which they lodge. When the infection is started its rapid spread by peristalsis is instituted, and the enormous absorptive capacity of the peritoneum speedily overloads the blood with organisms, so that the patient soon succumbs to putrid intoxication.

During the first few days after a laparotomy it is best that no person besides the nurse and physician see the patient. Nervous and hysterical patients are always made worse by visitors. It is my custom to have my patients and their friends understand before the operation, that the

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patient will not be seen by them until after seventy-two hours have passed. It is only occasionally that this rule can be violated with impunity.

The stitches are usually removed on the seventh or eighth day. The best way to remove them is to lift up with the dissecting forceps one side of the ligature turning it over on the abdominal wound until the whitened silk is seen, then to divide and draw it through from the other stitch hole. The point of the scissors should be placed close to the stitch, as it is drawn out, as a counter-pressure. It should be drawn *toward* the wound instead of away from it, so as not to break down the recent healing. The fingers, dissecting forceps and scissors should be absolutely clean in this procedure. After removing the stitches, when there is no indication of stitch-hole abscess, I make no attempt whatever to cleanse the wound, but recover it with iodoform and boric acid, and then with the abdominal binder. No attempt is made to wash off the wound until the end of the second week, so as to avoid all possibilities of infection through the stitch-hole. The patient sits up on the twenty-first day and leaves the hospital on the twenty-eighth, if a favorable case.

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HODGEN'S SPLINT.

WM. J. CHENOWETH, M. D., DECATUR.

A committee appointed by the American Surgical Society in May 1890, to state what, in their judgment, should be considered as satisfactory results in the treatment of fractures of the femur say, in their report made September, 1891, under the head of "Conditional results:" "The treatment may have been conducted under circumstances in which it may have been impossible to have proper apparatus:" A defense of this kind, in a suit for mal-practice, will appear plausible to a large number of physicians who have been taught that certain instruments are indispensable to success in treating these fractures, especially to such of them as have not known that Hodgen's splint is attainable, or can be improvised, in almost any locality in this country. While the catalogues of instrument makers contain cuts of the splint, and a few treatises on surgery mention it, there can be no doubt that it is not generally known or but poorly appreciated. It is so simple in its construction that any man of ordinary capacity can make it; it is so easy of adjustment that he is dull who can not apply it; and the materials necessary for its manufacture are so common that they are practically everywhere. If the iron wire, of which it is usually made, can not be had, wood or other substance strong enough to hold up the leg will answer. Although adhesive plaster is the best article for use in extension, a bandage applied around the leg and ankle and fastened to the cross-bar will suffice. The wheel

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over which the twine passes for suspension and extension, can be made from wood with a pen knife. There is no part of the apparatus which can not be made when needed, and the poorest specimen should give hope for a successful result. Dudley relied on the bandage alone, and his success was phenomenal, but he has not had a successor, and should a failure occur, in an attempt to follow his method, the result would only be justified, on the ground that no materials out of which Hodgen's splint could be made were available.

The recognized requirements for treatment for a fractured femur, are bone in line, limb extended, counter-extension and immobility of the fragments. Comparing this with other splints will show that it will fill the indications as well, and has many advantages over those in general use. Plaster of paris should be applied by a man of experience and of skill. It may be so tight as to cut off circulation, or so loose as to permit overlapping or bending of the bone, while it gives false security by its presence. Buck's extension apparatus, with some modification, is probably the best yet devised. But the necessity of lying in one position, and the danger of motion at the seat of fracture, when implements are used in evacuations of the bowels, are serious objections to its use. The double-inclined plane, once a favorite, has been weighed in the balance and found wanting. Hamilton, in his great work on fractures and dislocations, calls Hodgen's splint an inclined plane, and as such condemns its use. To a person who has used, or seen it used, this appears to be a strange misstatement. Dr. H. Mudd, in an article published in the *Medical News*, May, 1890, on the "Suspenson Splint," says, those who wish can, by mathematical formulas, compute the absolute extending force obtained by oblique suspension. In a computation made by Dr. Francis E. Nipher of Washington city, and

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Dr. A. K. Worthington, now of Denver, it is found that, estimating the weight of the leg at twenty-one pounds, and placing a splint so that the angles would be respectively forty and seventy-five at the leg and thigh, in a man weighing 150 pounds, the extending force would be 6.1, by reducing the angle at the leg to 35, and increasing the angle at the thigh to 105 degrees, the amount of force was 14.7. A fair estimate of the extending force can be made by means of a dead weight placed on the strips of muslin used to suspend the leg, and fastening the splint by means of a spring balance to a fixed point.

In the treatment of children it may become necessary to add weight to the splint to compensate for want of it in the leg. Holding the limb in line, by extension, we can determine whether the fragments are retained in an immovable position by moving the splint from side to side. It will be found that there is no motion except at the joint.

If it compares favorably with other splints in securing length and straightness of limb, as its friends claim, the comfort of being able to move from one to the other side of the bed without disarranging the dressings, and of using vessels without staining the clothing; the cheapness of the instrument, the ease with which it can be applied; and its attainability place it in the foreground of thigh splints.

Since preparing this paper my attention has been called to an article which was presented to the Section of Surgery and Anatomy of the American Medical Association, June, 1889, by our worthy president, Dr. C. C. Hunt of Dixon, Ill., in which, under the title of "A new use for an old instrument," five cases of sciatica are reported "picked up at random, from a list extending over five years, that had failed to obtain relief by any other means, permanently relieved by rest and extension with Hodgen's splint." As the relief was marked and decisive, in from one to six

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hours, and the cases recovered in from two to six weeks, without the administration of any other medicine than an occasional laxative or cathartic, it is evident that the cure was due to the splint. And "that this suspension apparatus does produce extension," is further demonstrated by a case of oblique fracture of the thigh, with two and one-half inches shortening, in a very muscular man, where the Doctor sat by the bedside of the patient and saw the fragments move into line by means of the splint alone, no anæsthetic being used.

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OBSERVATIONS ON MOVABLE KIDNEY WITH HYDRONEPHROSIS.

D. W. GRAHAM, M. D., CHICAGO.

Most recent writers make a distinction between floating kidney and movable kidney, and this distinction should be more generally recognized than it is. By the former is meant a congenital malformation where the organ is entirely surrounded by peritoneum, and is as truly intra-peritoneal as is the spleen. This condition is rare and of little pathological importance. While the latter term is used to designate an acquired condition of the kidney where it is loosened from its natural bed and glides more or less freely under the peritoneum in any direction, either with or without its fatty capsule, or at times the organ may gradually stretch its covering of peritoneum to which its anterior surface is normally attached and projecting more and more into the peritoneal cavity, thus approximating the condition of the true floating kidney.

There is no doubt but that the movable kidney, in some of its forms was, as has been suggested, the "phantom tumor" of older days, for the chief physical phenomenon is the presence of a tumor, visible or palpable through the abdominal wall, at times easily discovered and suddenly disappearing while being manipulated, and at other times not discoverable by any means.

The causes of movable kidney, as usually given and described, need not be rehearsed or discussed in this connection, neither the reasons why the condition is more fre-

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quent in females and more often found on the right side than on the left. It may be stated, however, that the chief etiological factor is a rapid absorption of the circum-renal fat and that of the abdominal walls and cavity generally. Violence in the region of the kidney stands alone, in some cases, as the starting point of the trouble.

The only objective sign worthy of notice is the presence of a tumor, as just referred to, in the space between the hypochondrium and the pelvis.

The symptoms may be summarized as including mental disquietude, pain, localized or reflected, and disturbance of the functions of the kidney or any of the neighboring organs, though in many cases there are no symptoms except a mental disturbance, caused by a knowledge of the presence of a tumor. Examination of the urine gives negative evidence only.

The most marked and the most serious consequence of movable kidney is the inevitable tendency to the formation of hydronephrosis. This causative relation between these two conditions is everywhere recognized, but probably there is not as much importance attached to it as there should be. When a kidney becomes more and more frequently displaced, and eventually the condition becomes permanent, the normal relation of the organ to its ureter is altered and the tube is subjected to pressure, to acute flexion or to twisting; hence the outflow of urine is arrested, at intervals more or less prolonged, or permanently, though the obstruction is not often complete or permanent, when due to mobility of the kidney alone, for intermittency is a marked characteristic of this variety of hydronephrosis.

The range of symptoms of a developing of fully developed hydronephrosis is the same as in movable kidney, except that all the mental, physical and functional disturbances are more intensified and the tumor becomes variable

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in size or intermittent. Indeed, this variation and intermittency are almost pathognomonic when the condition is due to mobility of the kidney. It is true that we have intermittency when the condition arises from other causes, but in the former case the mobility of the organ is present and generally discovered before the enlargement.

The progressively destructive tendency of hydronephrosis is to be kept in view and emphasized. First, the pelvis of the kidney suffers distension; then the calices and tubules are dilated, and soon the secreting substance of the organ is subjected to increasing pressure, and ultimately the kidney is completely destroyed as an excretory organ and converted into a sack, whose lining membrane continues to give off an albuminous watery fluid indefinitely. In addition to this result of the natural course of the disease when allowed to go on without interruption, the hydronephrosis is liable at any time to become a pyonephrosis with its still more destructive tendencies.

How then shall we conduct the treatment of hydronephrosis when due to movable kidney? By way of prevention an endeavor may be made to limit the range of motion of the organ, and to hold it in its natural position by means of trusses or pads and bandages. This course is justifiable in a mild case and when there are no distressing symptoms such as to interfere with the requirements of the patient's avocation, although not much is to be expected from these measures, for the reason chiefly that sufficient pressure to retain the kidney in place can not be tolerated by the patient. The operation of nephrorrhaphy is called for as a preventive measure in the more marked cases, and in all cases not amenable to simpler means. This operation is a safe one, has been often done and within recent years many attempts at improvement have been made with some degree of success. And, while it does not give the infallible and

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permanent results that are sometimes extravagantly claimed for it, it is still the operative procedure to be adopted in simple cases of movable kidney.

When we have the hydronephrosis already developed to a recognizable degree, how shall it be dealt with? Aspiration, massage, pads and supports of various kinds have been advocated, tried often and an occasional case reported permanently cured by such measures, especially by repeated aspirations. But none of these means are to be relied on, and while they are being tried time is wasted and damage to the essential part of the organ is gradually going on. The question lies between nephrorrhaphy, nephrotomy and nephrectomy. The first is rarely adequate alone and the last is too grave an operation for the condition and an unnecessary sacrifice, except as a last resort or when the essential part of the organ is entirely destroyed and the remnants only are to be dealt with. Lumbar nephrotomy—cutting into the kidney from the loin, for the purpose of securing continuous free drainage, exactly as if for pyonephrosis—has been resorted to with the best apparent results, when considered from all points of view, and is to be advocated on rational grounds as well as on those of experience. This procedure, of course, contemplates firmly sewing the kidney to the edges of the wound as a part of the operation, and in such a way that the dilated cavity within it is directly continuous with the lumbar opening. At least one heavy silk suture should be passed through the whole thickness of the kidney and the structures of the lumbar wall, including the skin, on each side of the incision. Thus the kidney becomes so firmly fixed to the lumbar wall that there is little danger of it ever becoming detached. The cause of the obstruction is permanently removed and the sack gradually contracts down to a harmless size, the urine again flowing its natural way, except what passes temporarily

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through the wound, which is allowed to close at the proper time.

It is claimed against this operation that the tract of the wound and the sack are liable to become infected and to suppurate. This is true enough, but this liability is not great and can be reduced to a minimum in any case, and in any event it is not greater than the liability of a hydronephrosis becoming a pyonephrosis, if it is not arrested in its course. If it is argued that a certain amount of kidney substance is destroyed in this operation of nephrotomy, as an offset it can be urged that there will probably be less destruction than if temporizing measures are resorted to, or an operation that may seem less grave but which is less likely to prove inadequate in the end. Dr. R. F. Weir, of New York, has the credit of first deliberately resorting to nephrotomy for the cure of intermittent hydronephrosis, due to movable kidney. Newman in 1888 had collected twelve cases, including that of Weir, all resulting in complete cure. Gross had added three more a little later. The report of Czerny's clinic gave five operations with two deaths, but these were said to have had complications.

It has occurred to me to have had four cases of movable kidney within a year—all of them hospital cases. Three of them had developed hydronephrosis as a result of the displacement. Three were in females and three were on the right side, one of the females having the left kidney involved. All were unilateral.

Case I, that of a male of 29 years, is worthy of record in this connection, although there was as yet no hydronephrosis. He was thin and had been progressively emaciating for months. The disquietude of mind was marked. A movable, intra-abdominal tumor was found in the cecal region, the existence of which the patient had known of for some time. There were tenderness and radiating pains in

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connection with the swelling. On account of the patient's general condition, the pain and tenderness, the apparent attachments, and the location of the tumor, a diagnosis of probably malignant disease of the cecum had been made before I saw the patient by one of the best of diagnosticians. To me also that seemed to be the best explanation of all the symptoms. An exploration was made through an opening over the site of the tumor and it was found to be the kidney, normal in size and condition, retroperitoneal, lying partly within the true pelvis between the common illiac arteries with the hilum looking diagonally upward. The overlying peritoneum was incised and manipulations made by which the kidney could be pushed up toward, if not quite into, its natural position—swinging on its vessels as on a radius—from which it would quickly recede on removing the pressure of the hand. The wound was closed and at a later date a lumbar nephrorrhaphy was undertaken in order to anchor the kidney to the lumbar wall. The effort and the result were not satisfactory. The kidney could not be brought fully to its natural position and considerable traction was required until the sutures were tied.

I think the explanation of this difficulty was the adhesion of the kidney to the peritoneum at the point of incision at the brim of the pelvis, which was made in the exploratory operation. By the time the patient was well of his wound and on his feet the kidney had pulled away and seemed to be near where I originally found it. The patient has since disappeared from view.

Case II.—Mrs. T., a mother, aged 35, had a movable, variable, intermittent, gradually increasing, painless swelling in the right side of the abdomen with some irregularity on the surface. There were no symptoms except mental disquietude. The diagnosis of hydronephrosis, probably the sequel of a movable kidney, was made. Another physician

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at an earlier day had diagnosticated impacted feces because of the want of symptoms, the location of the swelling and its behavior under massage.

Nephrotomy drainage and secure stitching were resorted to. More than a pint of clear, odorless fluid was evacuated. No stone or other cause of obstruction was found. The fluid from the drainage tube soon became pure urine, and the tumor disappeared. The wound was kept open three months. It remained closed, no tumor reappeared, and she is reported well at last account.

A few weeks after the operation the wound had contracted firmly around the tube which could be corked, and the flow through it controlled at will. During the progress of this case I made some beautiful experiments to determine whether the ureter was pervious, by injecting red aniline dye through the tube, corking it and noticing the varying intervals at which the stained fluid would appear in the bladder. A solution of permanganate of potassa was first tried, but it seemed to decompose and the color disappear before it reached the bladder. Before the tube was removed the patient made a visit to the country, using the corked tube for cleanliness and protection. While away she had a violent chill, febrile movement, pus from the tube, and for the first time cloudy urine. She returned, and the evidence of suppuration shortly disappeared without a trace of bad results. The irregularity as has been mentioned as being found on the surface of the tumor is often present in hydronephrosis and pyonephrosis, and should be kept in mind as an aid to diagnosis. It is caused by unequal dilation of the calices and pelvis.

Case III.—Mrs. S., aged 33, a mother, suffered great distress in right side of abdomen, gradually failing health, with a movable tumor, variable in size, having gradually

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developed in the course of a few months. Diagnosis: movable kidney with small hydronephrosis. The organ was cut down upon and a small quantity of fluid was demonstrated with the aspirator. Nephrorrhaphy was completed by passing two large silk sutures through the substance of the convex border of the kidney and the borders of the lumbar wall. A large cicatrix was encouraged by using a large drainage tube for a considerable time. Some suppuration occurred. The patient was discharged well in about two months and improved rapidly in general health. All symptoms disappeared and the operation was counted a perfect success. A recent letter advises me that all went well with the patient for months. But a few weeks ago after some lifting and unusual exertion, soreness came on at the old site, and the kidney could be felt at times as formerly, and everything points to the conclusion that the organ has broken away from its cicatricial adhesions and threatens to become as troublesome as before the operation.

This case illustrates, in the first place, that I showed too much clemency to the offending organ in making a simple nephrorrhaphy instead of nephrotomy and drainage; and in the second place it shows the unreliability of statistics and reports of results when made too early.

Case IV. Admitted to the hospital the 27th of April: Mrs. P., aged forty years; has borne ten children. Patient says her present sickness began the first of last January, suddenly, while riding in a wagon. The first symptom was a severe pain in the left side radiating into the groin and thigh. Then appeared vomiting, diarrhœa, dysuria, vesical tenesmus, and scanty urine, on account of which she was bedfast six weeks. Some improvement came, but on admission there was the same group of symptoms with great emaciation and unusually lax abdominal walls. During a preliminary observation period of about a week the urine

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was habitually cloudy, of good specific gravity, but the quantity for twenty-four hours never exceeded eight ounces.

A movable enlarged kidney with supposed hydronephrosis could easily be made out on the left side resting partly below the crest of the illium.

Lumbar nephrotomy for drainage and suturing was decided upon.

On exposing the organ it was found to be completely covered with serous cysts, varying from the minutest size to an inch or more in diameter. Indeed the whole cortical substance seemed to be involved in the cystic degeneration.

The larger cysts were all punctured. Fluid was demonstrated within the kidney by use of the aspirator and fluctuation. The fluid was clear. The pelvis of the kidney was not greatly distended.

An extemporized consultation with my associate, Dr. Senn, who was present, resulted in changing the original plan of operation to that of a simple nephrorrhaphy, which was carried out with two large deeply planted silk sutures. Recovery from the operation was uneventful. Improvement in the patient's condition was immediate and remarkable.

The amount of urine increased to nineteen and one-half ounces the first twenty-four hours and in a few days reached as high as fifty ounces. The whole group of symptoms rapidly and completely disappeared and improvement in nutrition and gain in weight were noticeable from the first.

The patient is still under observation. The reason for changing the plan of operation in this case was that the extent of the cystic degeneration found, taken in connection with the gravity of the symptoms and the scanty urine that had been present before the operation raised a serious doubt as to the integrity of the other kidney as well as to the functional value of this one. In the face of such sus-

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picions the wisest course seemed to be for the time being at least to pursue that course which would destroy the least amount of kidney substance.

DISCUSSION.

DR. I. N. DANFORTH, CHICAGO:

There are one or two points that I would like to allude to in Dr. Graham's paper. He states that an examination of the urine does not amount to much, or that there are no deposits in the urine of any significance so far as the diagnosis is concerned. I do not think that is so. I have examined the urine in a number of cases of floating kidney, and I have always found indications of urinary disturbance. If you simply examine the urine as it is passed with the naked eye or with the microscope you will not get indications of trouble, but if you allow the urine to stand for twelve hours in a conical glass you will find a whitish deposit. In that deposit you will invariably find leucocytes and cells from the renal tubules. I have never known it to fail, and that indicates irritation of the kidney–a catarrh of the kidney. You will find almost always some tube casts or small hyaline casts. I would not like the paper to go on record as an authority without correcting that slight mistake, because it is important in the diagnosis. I think it is likely that some of the casts came from the unaffected kidney. These formative elements are always present. A kidney which is moving about in the abdomen is in a state of irritation, and a chronic catarrh is developed which it is important to know of for diagnostic purposes.

In the second place, the Doctor states that the organ may be retained partially at least by pads, trusses or some such apparatus. I have tried them a number of times, and they amount to comparatively little, for in order to retain the kidney in place the pressure must be so great, so deep and so constant that it produces irritation and pain in the kidney and will be objected

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to by the patient. Moreover, any pressure that will retain the kidney in place will of itself irritate and injure the organ and increase the trouble. Then, what is most of all, it will not do any good. That is my experience with pads and trusses.

As to the treatment of this state of things, the operation recommended by Dr. Graham is the best, namely: opening the kidney, draining it, stitching the borders of the wound to the borders of the kidney wound, and in a great number of cases it results in a cure. The operation is not a dangerous one, is easily done, and the results are almost always good.

DR. D. W. GRAHAM:

There is very little in what Dr. Danforth has said to call for further remarks from me. I was glad to hear him touch upon examination of the urine, as what he said will be supplementary to what I said in the paper. However I did not mean to convey the idea that there were no changes in the urine—simply that there were no changes that would be of positive diagnostic value. The urine should be examined in all cases, or suspected cases; and I would like to add it was examined in all four of the cases I reported, both chemically and microscopically and as to the variations in quantity, but the details were omitted from the paper for the sake of brevity.

As to trusses and pads I no more believe in them than Dr. Danforth does, I only claimed they may be tried, not to fix the kidney, but rather to limit the range of motion in movable kidney to prevent hydronephrosis.

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SOME SUGGESTIONS ON INGUINAL HERNIA.

W. M. HARSHA, M. D., CHICAGO.

Considering the prevalence of inguinal hernia, the frequency with which strangulation occurs and the dangers that attend it, we may well be surprised at the want of interest manifested by the profession generally in its prevention and treatment.

Among the most potent predisposing causes are hereditary muscular defects and lengthened mesentery. With these, little can be done in the way of prophylaxis.

Among the most frequent exciting causes especially in the young, where most cases occur, are constipation and phymosis. These are conditions that may be remedied. Strict instructions to nurses in regard to the management of infants may prevent many cases of hernia. The practice of giving soothing syrup or other opiates often induces a constipation that may cause a hernia. The use of castor oil may be followed by a secondary constipation. A small enema is often all that is needed to move the bowels, and the mildest means which will suffice are to be urged, especially in families predisposed to rupture. The neglect of a phymosis has been a frequent cause of hernia, as is well known. The treatment of the phymosis is demanded from other consideration as well. The longer the conscientious physician practices his profession the more he feels the responsibility of his position; and the neglect of anything that may cause a hernia may prove a disagreeable memory

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to the physician as well as a source of mortification and danger to the patient.

After the hernia has occurred we have a foe worthy our steel and we should not send the case to a truss man at random. There are conscientious and skillful instrument makers who try in a rational and intelligent manner to treat each case on its merits, but the majority of these men have a favorite truss or appliance, as they may be pleased to term it, with which they profess to treat all cases successfully. Directions given in text books are often vague and leave much to the judgment of the surgeon. In congenital cases not infrequently the management of an undescended testicle is involved in the treatment, where a nice adjustment of a small pad may be a necessity. Again we may have a case of long standing where the rings are approximated and present the appearance of an opening straight into the abdomen directly above the pubic bone. In such cases a hard pad with the pressure in the right place will injure the cord, while if it is over the usual site of the internal ring it is wide of the mark. Such a case I have found best managed by means of a soft rubber pad filled with water, which may press close to the pubic bone, retaining the hernia, but sparing the cord. It is my belief that a majority of cases in children may be cured in a reasonable time by properly selected and adjusted trusses, if the same care and attention is given to them that other surgical cases no more important command. Our duty is not done when a truss is adjusted. We should keep the case under observation and note the progress or lack of it the same as we should in a case of spondylitis. Operations of a radical character are not often to be recommended in the young except when strangulation occurs. The different character of the sac in many cases of congenital hernia and the lack of intelligent co-operation on the part of the patients contraindicate operation as a rule.

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However, where the rupture is not retained by a truss and where conditions tend to grow worse, I think it our duty to treat them by operation. My experience with the injection method in children does not encourage me in its use. In some cases of both children and adults I have used it successfully, especially where the opening has been small, the hernia reducible and the canal not obliterated by long distension. The injection I have used as recommended by Warren of Boston. The fluid composed mainly of a concentrated fluid extract of white oak bark. The injection method has, however, been well characterized as blind surgery; and can be recommended in but a limited number of cases.

Since aseptic surgery has come to us, open operations are comparatively safe when done in the absence of strangulation, and we believe will become more frequent in both children and adults. Considering the very high death rate from strangulations and operation for their relief, it seems strange that operations should be so rare in the absence of strangulation, or so late when it is present.

There are many cases of hernia, that are not well retained by trusses, that are painful and constitute a constant source of danger in which operation should be advised.

In the conduct of the operation the first requirement is absolute asepsis so far as that is possible.

If there has been much distension of the skin and subcutaneous fascia, enough of the redundancy should be removed to secure a smooth and somewhat tense covering. The incision recommended by Dallas, of New York, commends itself to me. It is begun above the pubic bone and carried straight outward beyond the canal, then straight upward. The triangular flap is then dissected up and reflected, exposing the field of operation. Incision is now made along

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the direction of the canal through the deeper structures down to the sac in the usual manner.

The sac is next treated according to the individual preference of the surgeon, but should be cut off close up to the internal ring, or treated in such a manner as to prevent any protrusion or pouching.

Buried animal sutures should be used as recommended by Marcy, of Boston, throughout the extent of the wound along the canal, in order to get the most firm union. The flap of skin and fascia may now be stitched in place, preferably, I think, by silkworm gut, tied as advised by Treves, *i. e.*, using only the first part of the ordinary surgeon's knot and left lying flat on the surface. If much tissue has been resected a tension suture may be used.

The edges being nicely approximated, may be painted over with flexible collodion, saturated with iodoform, and an antiseptic dressing placed over the whole. Union may be expected throughout by first intention, and if it is thought best to wear a truss afterward, it can be adjusted so as not to be directly over the cicatrix as in the ordinary operation. In a majority of cases I believe a truss with only moderate pressure should be worn for a time, as I think the danger of pressure atrophy very slight. The frequency of ventral herniæ after laparotomies shows the necessity for precautions in any operation involving the abdominal wall.

In calling attention to this subject I wish to emphasize the following points:

1. That hernia in children may frequently be prevented by strict instructions to the nurse, or by operating to cure a phymosis.

2. That hernia having occurred, a persistent effort should be made to effect a cure by means of suitably adjusted trusses while the child is in the growing stage.

3. That failing to effect a cure in that way in due time,

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and especially failing to retain the hernia, an operation should be advised—usually the open method.

4. That in adults where retention is difficult and uncertain, and the patient made uncomfortable or disabled, an operation should be advised in the absence of strangulation, and an early operation in case of strangulation.

5. That after operations it is better to wear a truss or some sort of support until adhesions are firm.

58 State Street, Chicago.

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MODERN TREATMENT OF EMPYEMA.

D. A. K. STEELE, M. D., CHICAGO.

The great increase in the number of cases of empyema during the past year or two, is a sufficient reason for considering the best methods of dealing with this surgical affection.

The greater frequency of pleural abscesses is probably due to the saturation of the blood with bacterial germs of recurring epidemics of influenza.

By empyema we mean a collection of pus in the pleural cavity bounded on one side by the soft receding compressible lung and on the other by the firm, unyielding, bony chest wall. And in the consideration of its surgical treatment we follow the lines laid down by Immerman, of Basle:

First, to evacuate the pus.

Second, to prevent the formation of more purulent matter, and

Third, to restore the respiratory apparatus to its normal condition.

To accomplish these three objects a great variety of surgical procedures have been devised. In a paper presented to the surgical section of the thirty-ninth annual meeting of the American Medical Association, held in Cincinnati, May 10, 1888, I classified the choice of operations as follows:

First, aspiration.

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Second, aspiration and washing out of the cavity with an antiseptic solution.

Third, thoracentesis with trocar and canula.

Fourth, thoracentesis with subsequent drainage.

Fifth, simple incision.

Sixth, simple incision and drainage.

Seventh, simple incision, with through and through drainage, with or without antiseptic precautions.

Eighth, subperiosteal resection of rib and drainage.

Ninth, thoracoplasty—Estlander's operation.

Tenth, perflation.

Greater experience with these different methods enables me to say that aspiration for diagnostic purposes and to afford temporary relief to the patient, followed by simple incision and drainage with antiseptic irrigation, and the application of an antiseptic dressing, constitutes the modern method of treatment of empyæma. In some cases where the ribs are too close together to afford room for the drainage tube, or where its presence produces neuralgia from pressure upon the intercostal nerves, then subperiosteal resection of a rib must be resorted to, although it is seldom that I have found this procedure necessary. In regard to the technique of the operation I would say, that the simplest, speediest and safest plan of operation is the best. The one that subjects the patient to the least additional risk of shock, pain or time of operation should be selected.

Time of Operation—The operation should be done at the earliest possible moment after a diagnosis of a collection of pus in the pleura has been made; nothing is gained by delay and much valuable time is lost. The strength and vitality of the patient is jeopardized.

Anæsthetic—Local anæsthesia by hypodermic injection of a five or ten per cent solution of muriate of cocaine, or by

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freezing the site of operation with an ether spray, is greatly preferable to the use of a general anæsthetic, especially where there is a large collection of pus or where the heart has been displaced.

Site of Incision—The incision should be made in a location that will most perfectly drain the pleural cavity, whether the patient is lying or sitting.

These requirements are best met by an opening in the vertical line below the posterior fold of the axilla, and between the sixth and seventh ribs on the right side and between the seventh and eighth ribs on the left side. Of course various modifications of the site of the incision are required for special cases.

Two plans of making the incision are open to us: either to pinch up a fold of the skin with thumb and finger at the point indicated and transfix it with a sharp-pointed bistoury, thus leaving an incision of two inches in length down upon the intercostal muscles, which are quickly separated by dissecting forceps and the bulging pleura punctured with a sharp-pointed pair of scissors or director, along which the drainage tube, grasped by a pair of forceps, is pushed into the abscess cavity; or you may push the index finger of the left hand down between the ribs at the point selected, and alongside of it introduce a grooved exploring needle, and along the groove of the exploring needle push a narrow, blunt-pointed bistoury and make a two-inch incision midway between the ribs through the entire thickness of the chest wall, and introduce your drainage tube. I prefer the first method, although both are done very quickly and safely.

A double tube should always be introduced, so that you can throw a stream in one tube and have the return current flow out the other. The tube should not exceed one-third or one-half inch in diameter, and only the return tube should have lateral perforations. There should be a free

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opening at the inner extremity of the tube. This is easily obtained by bending the tube upon itself and cutting off half the thickness of one side of the bent tube. An ordinary safety-pin holds them in position well.

Andrew's tube is too large for the majority of cases. Hancock has recently fused two tubes together and fitted over them a rubber plate or collar which is a decided advantage.

After thorough irrigation with a warm antiseptic solution until the water returns clear, the wound around tubes is covered with iodoform gauze and a moist dressing of bichloride gauze ten or twelve thicknesses, surrounded with salicylated cotton, is applied and kept in place with a flannel roller. The dressings should be changed and the cavity irrigated daily for the first week and then every other day.

The strength of the solution may be bichloride of mercury 1 to 8,000 or carbolic acid one per cent., or Labarraques solution one to twenty which is the safest.

The temperature of the water should be 100 to 105 degrees and the quantity for each irrigation should be at least two gallons.

The time of treatment under this plan varies from two to six weeks.

It is not necessary to wait until the cavity is completely obliterated before the tube can be removed, but when for several days there has been an absence of pus and the discharge of a small quantity of colorless, odorless serum, the tube may be removed after a thorough irrigation and the cavity sealed up. It is possible to disinfect and sterilize an old septic cavity where old adhesions prevent the obliteration of the cavity by approximation of the lung and chest-wall, and then seal up a clean cavity of large size and have no further trouble from it.

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I believe in the majority of cases tubes are left in too long and irrigation continued too persistently, and that it is possible for us to materially shorten the duration of treatment of empyema cases.

DISCUSSION.

DR. C. W. HALL, KEWANEE:

To my mind the modern treatment of empyema or of any other disease should be governed by common sense and a knowledge of the causation of that disease. Empyema is a disease whose etiology is more or less in dispute. It seems to me it will be time well spent for me to go over in a hurried way the nature of this disease. We will find in a large percentage of pleurisies a cachexia or a constitutional taint, and it is our duty as physicians and surgeons to meet this constitutional tendency with proper treatment. I shall disagree in a measure with my predecessor in regard to the probable causation of this disease, and, of course, I will lay myself open for dispute or attack. Ziemssen and Pepper both seem to believe that empyema is the result of a sero-fibrinous effusion and is a degeneration of an ordinary pleurisy into a purulent pleurisy. This being the case, it seems to me that it is our duty to treat every case of sero-fibrinous pleurisy as though it were liable to end in purulent pleurisy. When the amount of effusion causes dyspnœa or in any way interferes with the heart's action, there is a double reason why we should aspirate. Aspiration not only relieves the condition of the acute disease, but it also lessens the possibility of a degeneration of that effusion into a purulent mass. So from the very beginning in pleurisy we should guard well the patient's vitality and make the main point of treatment that of prevention of grave sequelæ. You might ask the question, why is it that in some cases of sero-fibrinous pleurisy some recover and others degenerate into a purulent pleurisy? Of course, that question is hard to answer, but that same thing occurs constantly with effu-

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sions of different kinds. But there are two general reasons why this should occur. You take a lowered condition of vitality, due to general causes, and you have a lack of reparative power in that system, also a lack of resistent power; and you take these cases where the system is vitiated, you have that degenerative tendency more than you have in the robust and strong. . Then, also, there are local causes that tend to promote this degeneration. For instance, where the effusion is very large in amount it tends by its amount to shut off its own absorption by pressing on the absorbent vessels. Its own absorption being prevented, you have degeneration resulting. Again, we know it is the history of all cases of effusion, by pressure it shuts off its own supply of nourishment, and in that way causes a degeneration.

The modern treatment of empyema, as has been said, is purely a surgical procedure. Whenever we have a case of purulent pleurisy, I admit that it is time then to interfere surgically, especially when that interference does no harm and is very liable to do good. I agree with the Doctor throughout his paper in advising the simpler modes of treatment rather than the more radical ones. As far as surgical procedures are concerned, we have two methods—the closed and the open method. The closed method is the one that we should always undertake first. The record of tapping is too successful not to notice. Authorities are very distinct and plain in regard to the results of aspiration; the mode of aspiration is simple, and I would only add one suggestion to what has been already made, that is, for Lister's sake, even when you aspirate, use antiseptic precautions. I think it is likely that a great many times the pleura is infected by septic instruments. Before you give up the aspirations you should repeat them two or three times, and if you find that your patient is improving under aspirations, no doctor is excusable for performing a more radical operation. If you find aspirations do not suffice, you must resort to the open method, which has been explained to you. There is one procedure that I would simply suggest, and one that I have not seen mentioned anywhere, that is, in washing out the pleural cavity with peroxide of hydrogen. I believe that is *the* pus-destroying agent of our

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time. I do not agree with a great many physicians that we should make our aim the destruction of the pleural sac. It should be our aim to preserve it as much as possible. It is not right to take a natural cavity and treat it as an unnatural one.

As far as the resection of ribs is concerned, the fewer the better. I believe that the resection of a rib is a simple thing and is done with little or no harm. I recall the instance where the first man lost a rib and was greatly benefited by it.

I may add as a matter of medical procedure, that Dr. Whitaker, of Cincinnati, at the present time is lauding the salicylate of soda as a remarkable medicine in the treatment of purulent pleurisy and is crying against radical operations. He claims that the purulent matter is absorbed under the influence of this remedy.

DR. A. E. HOADLEY, CHICAGO:

I have listened to the paper with a good deal of interest, and I can heartily endorse the principles therein laid down for the surgical management of empyema. There are one or two suggestions I would like to make to go along with this paper, and one is that the principles that guide us in the treatment empyemic cavities and abscesses should be the same as in abscesses in other parts of the body. We have until quite recently been too prone to regard these abscesses, which they are pure and simple, as being something very different from accumulations of pus in other parts. Of course it is possible to have a large accumulation of pus in the pleural cavity without absolute destruction of the pleura, or it is possible to remove that pus and have the pleura returned to a physiological condition, but in a great majority of cases this is not the result; for when the pus forms and exists upon the delicate structure for a short time it is forever destroyed. It can not return to its physiological condition. It becomes then a granulating and pus-secreting surface.

In regard to the pleural cavity, I believe the best thing to do is to draw out as much pus as you like, then fill up the cavity again and maintain a moderate tension just for the time being, filling the cavity up with disinfecting fluid. The fluid I should use for rein-

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jecting the abscess cavity would be bichloride of mercury, and I calculate to put something like a grain of it into the cavity. I think that is a safe amount to introduce. One grain will make a pint of one to eight thousand. That is the weakest solution I would think of using. If I did not draw out but a couple of ounces, I would put a grain of bichloride of mercury into two ounces of water, that would make it about 1-1000. I have injected as much as four ounces of this solution of bichloride of mercury into abscess cavities.

DR. E. FLETCHER INGALS, CHICAGO:

In reference to Dr. Steele's paper, the remarks of the last gentleman (Dr. Hoadley) fully coincide with my experience; that if a large opening is made into the plural cavity containing a large amount of pus, the patient is very liable to grow worse from day to day and finally die, whereas if the same cavity were emptied slowly the patient would probably be saved. In empyema I favor aspiration, not once, but several times, withdrawing as much pus each time as can be taken without causing the patient discomfort. This may be a few ounces or a pint or quart; but no matter what the quantity, as soon as the patient experiences discomfort, such as pressure on the sternum or a disposition to cough, the aspiration should cease. It is best to repeat the operation every few days until the cavity is once emptied, before making a large opening. This is an important point in securing good results in the treatment of empyema, though there are exceptional cases in which this plan can not be carried out. Some years ago I aspirated a pleural cavity in this way seven times, drawing out altogether about ten quarts of pus before the chest walls were sufficiently retracted and the lung expanded to render a free opening advisable. Aspiration alone, especially in children, will often prove successful in curing empyema.

I think cocaine should be used a little more guardedly than recommended in the paper. A ten per cent. solution carries considerable cocaine, and if we inject six or eight drops of it we are very apt to get too much. A two to four per cent. solution will answer the purpose equally well, and is much safer.

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I was favorably impressed with the author's remarks about the size of the drainage tube, although I use two smaller tubes, each having only an eighth of an inch inside calibre. The one objection to tubes of this size is that they do not allow us to wash out large flakes of fibrine, until they have disintegrated, but we can wash out the pus more nearly in nature's manner and more safely than through large openings. Patients occasionally die suddenly from quickly removing the pressure from the pleural sac, as necessarily occurs with large openings. Several instances are on record in which the tube has slipped into the chest on account of the pins having become unfastened. A safer fastening consists of a half-inch section of the same rubber tubing, slipped ever the drainage tube, having tied through it two short loops of silk through which long strips of adhesive plaster are fastened to the chest; these hold the tube with absolute safety. The recommendation to seal up the cavity as soon as the discharge becomes serous is of great interest to me. I have never tried it, and I do not know how safe it will prove, but should hope it might succeed.

I should not like to use as a wash such a solution of bichloride of mercury as strong as that recommended. Dr. Fuetterer, of Chicago, has aspirated a half dozen cases of empyema, withdrawn the pus, and injected a three-fourths of one per cent. solution of the oil of cloves in water, and all of the cases have recovered. I have tried this plan on two cases; in one of them a previous opening had been made with a trochar, so that I could not consider it a favorable trial, and in this the method did not succeed; but in the other case, which seemed peculiarly unfavorable, the result was a speedy cure after only two aspirations and injections of the clove water. I greatly prefer solutions of carbolic or boric acid, or of the oil of cloves, or oil of cassia, to the bichloride of mercury solution for washing out such cavities.

DR. J. M. G. CARTER, WAUKEGAN:

I wish to mention two cases in which I operated, showing what a physician can do sometimes even if he has no aspirator, or anything of that nature. The two cases I refer to were

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operated on with a knife. An ordinary flap opening was made as low as the seventh rib in one case, and part of the rib was removed in order to make the opening sufficiently large to enable me to reach the cavity and wash it out. I used in this case, as a wash, a solution of carbolic acid. In the other case the opening was made considerably higher, and in that case also I made a flap opening with an ordinary bistoury and treated it in much the same way, using, a portion of the time, a solution of boric acid. Both of these cases recovered. I mention these cases so as to encourage those who may be situated far from instruments. One may undertake such an operation when circumstances do not seem altogether favorable and relieve the patient. I have not used any stronger solutions of antiseptics than those ordinarily recommended. My solutions of carbolic acid have been about one-half or one-third of one per cent.

DR. D. W. GRAHAM, CHICAGO.

In the treatment of empyema and in discussing methods of treatment we ought to keep prominently in view what seems to be so often overlooked, that suppuration of the pleura is essentially the same as suppuration in any other part of the body. It also runs the same course and calls for the same principles and details of treatment as other abscesses, except as modified by its walls and anatomical surroundings.

If these fundamental facts were always kept in mind we would hear less and read less about the supposed superior virtues of special methods of opening, special solutions for washing out and special tubes and devices for drainage.

In simple cases, with an early diagnosis, and especially in children, it is a very simple matter to treat empyema successfully. Let out the pus in the easiest way, and it makes very little difference how, and the compressed lung will expand and obliterate the abscess cavity exactly like the walls of a simple abscess of the superficial tissues. I believe this will take place in all cases treated early, where there is no complicating tuberculosis or other disease of the lung.

But in empyema we have one rigid wall to begin with, and when the other wall, the lung, becomes solidified—as it is liable

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to do, sooner or later, from prolonged compression—we have two rigid walls which can not meet to obliterate the cavity. When the lung is not permanently solidified it expands, more or less gradually, with encouraging treatment, and while the case may be greatly prolonged, yet it is finally cured in the same way as the other cases—by obliteration of the cavity. And when the lung is permanently solidified my experience leads me to believe, and my conviction is, that the case is incurable, except by means of one of the radical and grave operations which will allow the walls to meet each other and grow together. It does not seem to me possible to so disinfect such an expanse of granulating suppurating surface as the whole internal surface of the pleural sac that it will at once cease to suppurate without obliteration or cicatrization of the granulating surface. We can not do it on the outer surface of the body, at least, so I can not but believe that cases reported as treated in this way successfully were rather cases of the second class, where the lung regained its resiliency and expanded to meet the chest wall. I agree with the author of the paper, that the use of drainage tubes and irrigations is often overdone and continued too long in these cases.

DR. A. C. CORR, CARLINVILLE:

I had under my observation a child three years old, treated for empyema much after the plans that have been suggested here. It became chronic, and the marked peculiarity of the case was the widening and broadening of the distal extremities of the fingers and toes. They were not thickened from front to back, but widened and broadened. Somewhere in neurological literature it is mentioned that this condition is found to be an occurrence in this kind of trouble.

DR. J. L. WHITE, BLOOMINGTON:

I have within a couple of years treated two cases of empyema simply by making an opening and then introducing a common drainage tube about the size spoken of, and using injections of peroxide of hydrogen. Both of the cases got well. They were under treatment for two or three months before they recovered. In our county there was one other case in the hands of another physician.

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I saw it, and I will mention it. He spoke of a simple contrivance he had for the comfort and convenience of the patient. Upon the drainage tube, that was introduced, he slipped over one of those toy balloons, which caught the pus and was a perfect protection to the surrounding parts. It makes a very nice appliance to put on in a case of that kind where there is a constant discharge. It keeps the parts clean.

DR. J. HOMER COULTER, CHICAGO:

I must beg to take exception to one of the remarks of Dr. Graham in regard to his hypothetical case, as I believe it is an impossibility, except in rare instances, to have hepatization or solidification of one side of the cavity, in case of empyema, so firm and unyielding that we might have a complete solid wall surrounding the abscess. It has seemed to me that it is unusual and improbable for the lung to be so thoroughly hepatized that it would be solid enough to prevent its expansion to normal size, in the short time that pus *could* remain in the pleural cavity. In other words I claim that, in the majority of instances, pus can not remain long enough in the cavity for the lung to become hepatized, so that it will not expand when the pus is extracted. In two post-mortems that I recall we found that the lung had not expanded gradually over the whole surface, but had collapsed and become lobulated and healed in this manner, showing that the hypothetical case as stated by Dr. Graham is an impossibility in at least a certain number of instances.

I am satisfied, as stated by several, that pus must be taken out gradually, that sudden evacuations may be fatal, and are certainly dangerous in any case.

As to the injection that is used after the extraction of the pus, I have used several solutions, but none of them have given me the satisfaction that the so-called ether-iodoform injection or solution has, that is, a solution of iodoform in ether, the strength of the solution being dependent upon the age of the patient, the severity of the case, the extent of the cavity, or the amount of pus extracted—about 2.5 grains to the ounce in solution, and use as much of it as has been indicated by the author of the paper.

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DR. H. W. CHAPMAN, WHITEHALL:

With regard to the line of argument advanced by the previous speakers, as to the lung becoming solid and the length of time that pus may stay in the pleural cavity, a case comes to my mind in which I operated a number of years ago, in which the pus had undoubtedly been in the cavity two years, and the lung was compressed by it very greatly. The patient was sixteen years of age, and there were eighty-seven ounces of pus in the right pleural cavity, which had existed, as stated before, for two years. The lung expanded after the operation and almost filled the chest.

DR. W. C. CALDWELL, FREEPORT:

I desire to take exception to one or two points brought out in both the paper and the discussion, and one is that genuine cases of empyema can be cured by simple aspiration. I have seen aspiration practiced time and time again without curing the patients. I was in Paris many years ago and saw Professor Dellafoy use the aspirator, and also saw him inject medicinal substances into the pleural cavity, at the same time drawing them out without the introduction of air into the cavity. After he had a large number of these cases under observation for three years, his conclusion was that it was folly to evacuate a cavity of that kind. If it contained pus it should be opened and drainage effected. I can understand why one of the speakers would recommend that the cavity should be aspirated if it contained a large amount of pus for the purpose of allowing the heart and other organs to resume their natural position. The rule as laid down by the best authorities is this: You know that you have got fluid in the pleural cavity, and you ascertain it by simply exploring with a small trocar or hypodermic syringe. Now then, if you have serum, why aspirate? Time and time again if the cavity contains pus your duty as a physician is to open it, and you should do it gradually. You may have to do it for a few times simply for the purpose of getting the patient accustomed to the changed position of the heart. Another point, and which I consider an important one:

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I saw two patients die from the administration of chloroform, one at a clinic in Paris, where everything possible was done to resuscitate the patient. The operator opened the pleural cavity, withdrew a large amount of pus, and the patient died in spite of anything that could be done. I saw another case that died in Guy's Hospital, London, after the anæsthetic was given to withdraw the fluid from the pleural cavity. Personally, I have never given an anæsthetic for a large amount of fluid contained in the pleural cavity.

Another point not dwelt upon sufficiently is with regard to the prognosis in any given case of pus in the pleural cavity. My idea with regard to that question is this: Is that a case of tuberculosis? If it is, you must give an unfavorable prognosis. It is your duty to examine that fluid and ascertain whether or not you have tubercle bacilli in the pus. If you have not and the lung is not too much compressed you will be able to give a favorable prognosis. The point I desire to particularly emphasize is this—that aspirations alone in cases of effusion into the pleural cavity will not effect a cure.

DR. D. A. K. STEELE, CHICAGO:

I desire first to refer to the statements of Dr. Hall regarding suppurative pleurisy. My paper did not pretend to give any of the causes, but simply attempted a consideration of the operative cure, the modern surgical treatment of empyema, and had nothing to do with the pathology of empyema except in an apologetic way for again bringing the subject before the Society. The greater frequency of empyema during the last two or three years was probably due to the influence of influenza. That was the only pathological or etiological allusion I made. I did not pretend to say that influenza was the cause or was responsible for the cause. We have seen during the last two or three years a great many more cases of empyema since the beginning of the epidemics of influenza than we had ever seen before in the same period. Query: What was the relationship, cause and effect, or coincidence?

In regard to the different methods of operation, I have little

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to add and nothing to take back in regard to the statements made in the paper.

With reference to the question of preliminary aspiration, I would like to say, in reply to Dr. Ingals and others, that it has been my uniform practice to do a preliminary aspiration for the purpose of perfecting the diagnosis and lessening the quantity of fluid in the chest cavity, thereby permitting the displaced lung to resume its natural position; not with the idea of a cure, but simply as a preliminary measure to the evacuation of the fluid by incision and drainage. It is true that repeated aspirations cure some cases. That repeated aspirations are curative in the case of children has been proved over and over again. I have on my record-book four cases of purulent effusions in children cured by repeated aspirations, varying from two to four times; those cases were all under the age of ten years. I believe this is the experience of the majority of operators. I do not believe it is possible to cure empyema by repeated aspirations in an adult, as the conditions are different. The lung is not so resilient; it does not regain its normal position, and it is more likely to be bound down by adhesions that do not yield readily.

In regard to the number of times that aspiration should be done, I will say that it can be done an almost incredible number of times. One operator reports a case in which he aspirated 132 times. This is more creditable to the endurance of the patient than to the judgment of the operator. I think it is bad judgment to employ such a large number of aspirations with a view to effecting a permanent cure, when we know that an incision with drainage will in the great majority of cases result in a permanent cure.

In regard to Dr. Graham's suggestion that it is impossible in certain cases to obliterate the cavity where there has been consolidation of the lung—hepatization of the lung—without doing Eslander's operation, I think that statement should be taken with a grain of allowance. *It is possible to disinfect and sterilize a rigid walled cavity;* rigid by reason of the ribs on the one hand, on the other by reason of old adhesions or chronic consolidation of the lung with imperfect approximation of the

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two surfaces. Such a case was reported by Dr. Hoadley some months ago (a patient in the Cook County Hospital), in which he disinfected, sterilized and sealed up the cavity, and there was no recurrence of suppuration. I have repeatedly sealed up rigid walled cavities of small size, holding from an ounce to three ounces, and had no recurrence of suppuration. The surgeon should always be sure that the cavity is aseptic and is thoroughly sterilized before it is sealed up, and then his results will be uniformly successful.

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REPORT OF A CASE OF NECROSIS OF THE CRANIAL BONES—EXHIBITION OF PATIENT.

SUPPLEMENTAL TO A REPORT MADE AT THE LAST MEETING.

C. R. PARKE, M. D., BLOOMINGTON.

At the last meeting of our Society I reported a case of necrosis of the parietal bones, the greater portion of which I had removed.

The scalp having sloughed and retracted, the dura mater was left exposed.

During the last year, three other bones have been removed, measuring 1x3, 1x2, and $1\frac{1}{4}$x$2\frac{1}{4}$ inches respectively. Since their removal the discharge of pus from under the edges of the scalp has almost entirely ceased, which indicates a healthy condition of the remaining bones.

The patient at the present time is enjoying good health, and doing a fair amount of work on his farm.

The removed bones I here present, wired together, show an exposed surface of dura mater, 7x8 inches in diameter, a portion of which has been exposed for six years. The patient wears nothing but a compress of absorbent cotton over it, held in place by a cap.

Since my last report, the cartilaginous and osseous deposits in the dura mater have increased in size and density.

Nature is certainly making an effort to restore the lost cranial bones.

Especially is this the case under the portion of scalp which accidentally became attached to the dura mater while the latter was covered with granulations.

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The case is certainly unique, at least I know of none such.

The primary or exciting cause in this case was a contusion of the scalp over the right parietal prominence, eight years since. Inflammation followed resulting in suppuration and necrosis of right parietal bone with subsequent sloughing of the scalp. Otherwise the patient enjoyed good health, with no depraved constitutional inheritance.

The necrosis continued to spread for seven years, until nearly the whole cranial vault has been removed.

The first opening through the right parietal bone was for the purpose of exploration, and revealed pus in the cranial cavity, with sub-acute inflammation of the dura mater.

Why did the bone die from so trivial a contusion?

Embolism of the middle temporal artery was, no doubt, the main factor in causing the scalp to slough. Why did the inner table of the cranial bones die? They receive their principal nourishment from the vessels of the dura mater and internal periosteum.

May not the shock from the blow have caused a local paresis of the vaso-motor nerves, producing congestion of the internal periosteum and subsequent destructive suppuration?

Another very interesting fact in the case is nature's effort to reproduce the cranial vault. In the rudimentary condition the cerebrum is inclosed in a membranous capsule external to the dura mater.

Gray says: A membranous blastema is thrown out on the surface of this cerebral capsule, in which the ossifying process extends, the primitive membranous capsule becoming the internal periosteum and intimately blended with the fibres of the outer coat of the dura mater.

It is this external membrane of the dura mater, and blended fibres of the membranous capsule, that is producing the cartilaginous and osseous deposits in this case.

The question is, will it continue until a new cranial vault is produced?

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CONSERVATISM VERSUS RADICALISM IN THE TREATMENT OF SOME FORMS OF PELVIC DISEASE IN WOMEN.

O. B. WILL, M. D. PEORIA.

The field of gynecology continues to present a scene of active conflict, and the rattle of controversial musketry is heard all along the line.

Amongst the questions most prominently at issue is that of the relative value, remedially, in the class of cases to which they are at all mutually applicable, of laparotomy and electricity.

Under the former head is of course included all necessary resections, etc., and under the latter all known forms of electric energy.

Whilst these in their way overshadow all other factors, there are yet many more, a knowledge of which is essential to a full and well-rounded conception of the true status of gynecological therapeutics. Electricity, although a powerful one, is not the only means of combating laparotomy and its kindred dissections. Neither is laparotomy the only method of meeting many of the indications for which its application is often assumed to be the only possible resource. Severally these agents are properly looked upon as respectively the advocates and harbingers of conservatism and radicalism in pelvic therapeutics. 'Tis true that the reckless extravagance of one, and exuberant ignorance of the other, often produce results very like in quality. Nevertheless in very nature the tendency of the expert in

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abdominal surgery is to radicalism, and the one in electro-therapeutics to conservatism.

It is more the principle than the means that I wish to discuss in this connection, but as an expression of principle is so closely, if not in a way inseparably, associated in therapeutics with the means, I shall deal with the latter in so far as is necessary to illustrate the lesson which I wish to convey.

There can be but little doubt in the mind of the observing medical man, that severe and grave surgical procedures are too frequently and inconsiderately resorted to in the treatment of the pelvic disorders of women. The truth of such conviction seems to be attested in several different ways. For one, we may state apparently without the necessity of invidious detail, that in numerous cases laparotomy, representing in the extreme of its application the severe radicalism of the day, although largely successful in an operative sense, has often failed at last of the accomlishment of relief from suffering. The patient may not have paid the forfeit of the attempt with her life. She may have recovered from the *operation* but not from the suffering which first induced submission to it. No one is in a better position to know of the truth of this statement than the general practitioners of the country who are destined at last to receive into their tender professional care the wrecks of female humanity who have passed through the crucible of the operating room. It is from them that the cry to "halt" has largely arisen. Others, not perhaps in every instance from the purest motives, have taken it up and reiterated it, and with equal unfairness and injustice advocated other means and methods equally inadequate and unreliable as sole dependencies in the effort to relieve this present type of human suffering. The pendulum of human effort, or rather activity, has swung too far in the direction of

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operative interference of the major kind, and that there *is* danger of its swinging to the opposite extreme must be constantly kept in mind. Intemperance in one direction is almost as bad as in the other.

Again, in the oft-recurring fact that as a result of so-called radical, or at least major operations, there supervene conditions in themselves nearly if not quite as distressing and objectionable as the original maladies, is an additional illustration of the uncertainty, and hence suspicious nature of the extremist and his efforts in the line of radical pelvic surgery. A year or two ago I went through the gynecological wards of one of the large hospitals of our metropolis, in the service of one of the leading surgeons of the country, and was perfectly astounded at the number of long-standing convalescents suffering from secondary results of one kind or other, such as ventral hernia, fistula, pelvic and abdominal neuralgias, paretic distensions, etc. A professional friend from a neighboring state who had just been with me witnessing the brilliant procedures in the operating room, appeared to be for a time too much occupied with his own meditations to say any thing, but finally found expression for the terse sentence: "Well indeed, here is food for reflection." Yes, truly, there *was* food for reflection, and one could not help wondering how much, if any, better off those poor souls were without ovaries than with them. It was calculated to impress one with the wisdom of the admonition to "make haste slowly" in the adoption of any measure so hazardous to life, and yet without the justification of a better record of freedom from subsequent similar illness or other deleterious effects.

Over and above all other objections to the prevalent ill-considered radical surgical manipulations is the fact that maladies, differing in no perceptible particular from those frequently subjected to grave operative procedure and gross

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anatomical mutilation, are cured by other means less severe, less hazardous and less destructive of anatomical and physiological integrity.

Laparotomy, with its accompanying resections, is the ideal procedure of the radical element in gynecology. It means nearly every time the removal of some portion of the pelvic viscera. That is the kind of surgery which from both principle and observation I have learned to look upon with dissatisfaction. Of course I readily admit that in the present state of surgical art it is sometimes the *best*, because the *only* thing we can do, but it is deplorable nevertheless. Whilst the skill of the operator may be admirable, the necessity for such mutilation as is often the result, is a sad commentary on his art, and not the subject of that congratulation which he often conceives.

It is infinitely illogical to claim that the removal of a portion of the organism, and especially so prominent and influential a one as that of generation, will not be followed by disastrous consequences of far-reaching character and import. Actions and reactions of untold extent *must* result. Arterial, venous, nervous and lymphatic tracts can not be severed and their functions destroyed without involving general and far-reaching, as well as local and immediate disturbances. It may be argued that the presence of diseased tissue is the disturbing element of greater influence, but that presents the question as involving considerations of degree rather than of fact. To determine how much of an individual's anatomy may be removed without destroying life as a whole, may be interesting, but it is neither ideal surgery nor scientific conservatism. If exploratory incision prove as harmless as it is claimed to be, it ought not for long to be considered necessary to *remove* even pus tubes. Their restoration to normal condition and functional activity would certainly be more in consonance

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with the spirit of an enlightened surgical sense, and, it would seem, scarcely too much of a tribute for the radical to pay to the conservative spirit of the time. The man of true surgical instincts ought, it would seem, to feel like hiding himself in very chagrin at the necessity for the destruction of organisms such as are now deemed even the most assailable. It can be at best but a make-shift, an excuse for ignorance and immaturity of the art, and as such should cause the blush of shame to mantle the cheek of every surgeon who feels compelled, in the paraty of his art to resort to it. It is certainly not a feat to be particularly well satisfied with, excepting in the skill with which it is frequently accomplished, and it is this latter that seems to overshadow all else, and that is so often mistaken for surgery, in its grandest and most acceptable sense. But the operation of opening the abdominal cavity can not yet be considered as one free from considerable danger to life, even when done by the most expert. There are present in it always elements of danger independent of those more strictly controlled by the surgeon. Men talk and write glibly about the absolute harmlessness and efficiency of surgical procedures involving the sacrifice of organs or parts of organs diseased or assumed to be diseased. I have a goodly number of times seen operators at a loss to account for diseased manifestations even when the presumed seat of disease was broadly in sight. I have deeply sympathized with, and equally deplored the audacity and discomfiture of those who were obliged to struggle hard to point out to an expectant body of students or medical men the existence of pus in a tube when I was equally convinced with others that none existed. Men who are not taught to make diagnosis without section are liable to jump to conclusions all too quickly. The brilliancy of many an operation has been dimmed in the eyes of witnesses by a failure to satisfacto-

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rily point out the nature of the diseased condition. Much has had to be taken on faith—too much, in fact, for many men engaged in that line of work seem not to have the courage to acknowledge the non-necessity for the procedure to which they may have resorted in a given case.

Another man I am suspicious of is the one who claims to be able to accomplish anything and everything by means of electricity. I believe that this agent, in its varied forms, is one of the most useful and potent at the command of the medical or surgical practitioner. But you can't do *every* thing with it—at present at least. The skilled laparotomist can accomplish what the unskilled can not, and thus is brought to light the factor of discord that is prominently present with us to-day, as it perhaps has never been before. It is in one sense a repetition of the old, old problem of the relative importance of the solids and fluids of the body as fields of disorder.

Skill in any line begets confidence, and thus one can understand in some measure the tenacity of opinion exhibited by the advocates of one or other practical measure. I should rather under some circumstances allow an expert laparotomist to open my abdomen than administer electricity to me, and *vice versa*. Nevertheless, it is a distressing reflection that men of sufficient skill, learning and judgment to utilize either properly and efficiently, should be so blinded by prejudice or what not, and so lost to all sense of scientific method and honesty, as to fail to give due attention and credit to *all* means of diagnosis and treatment advanced by intelligence and honest effort, and demonstrated in practical results.

The world of medicine, like the world in almost every other department of human endeavor, is prone to follow a given fashion, or adopt a given "fad." Hastened be the time when medical men will calmly consider all the features

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of a case, and act with an unbiased judgment becoming men who are capable of measuring the relative influence and value of every physical and mental, diagnostic and therapeutic, condition.

As previously stated, it is the *principle* of conservatism that I wish to uphold, regardless of any particular means or methods. The man who opens the abdomen with the care and caution demanded by modern antiseptic surgery, and searches out diseased conditions and relieves them by a restoration of form and function, is entitled to and receives more of my admiration and gratitude than does the man who abstracts the offending organ or part and thus gets rid of an enemy at the expense of a friend. But the man who *most* deserves and secures my admiration and confidence is the one who succeeds, with well-directed and intelligent effort in securing the desired result through means still less hazardous and heroic, although perhaps extending over a longer period of time.

Diagnostic skill is the first requirement, and may be gained, in the majority of instances, without the assistance of either ante-mortem or post-mortem dissection. This attained, the therapeutic measures to be adopted should be chosen with reference to its freedom from danger, its conservation of vital force, and its preservation of anatomical and physiological integrity, as well as its power to relieve immediate suffering and maintain the vital equilibrium.

Let me illustrate: Ignorant self-confidence is capable of misrepresenting the virtues of anything. I have in mind a case of recent aspiration of the bladder in mistake for a cyst of the vagina, and some time ago I did a laparotomy in a case in which the hypodermic syringe had been used to inject chloroform into the ovary and its immediate environments, through both

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vagina and abdominal wall, in which bands of adhesion in consequence radiated from the ovary and to surrounding parts, like the spokes in a wheel. A thin-walled cyst of the ovary was found and ruptured, and the woman's recovery was followed by relief of the pain formerly imputed to a neuralgia of the ovary.

Speaking of electricity; there is no more powerful agent for evil, when improperly and untimely used. But, in the cases of many tumors, ovarian and uterine disorders, tubal diseases and many neuroses, it has been proven far more conservative than the knife, in that, guided by knowledge and skill it is equally efficient with abdominal section in relieving suffering, and superior to it in preserving the vital integrity of all the parts, and that harmony of being which is best defined in the expression, "Eternal fitness of things." A reservation to the "*vis medicatrix natura*" of nature's own handiwork, even though somewhat out of repair, is best suited to an acceptible systemic tone.

The "laparotomaniac" of to-day conceives himself justified in removing the offending organ in cases of catarrhal salpingitis, for example. The conservative practitioner will do no such thing. In fact he considers it little short of a crime to do it. He finds that in most instances, at least, he can by other means restore the parts to their normal, or approximately normal condition, and thereby save the patient not only from the dangers of an abdominal section, but from the consequent mutilation and chagrin. He finds that in this particular condition he has a potent agent in electricity, in its power to reduce vascularity and condense tissue, and thus shut off hyper-secretion and secretory action. In addition to that he finds at his command the process of catheterization of the tubes, and the use by injection of remedies calculated to effect a cure. With these measures at his command, besides many others of more or less value,

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the conservative practitioner finds himself in a position to take issue with the demands of the time from radical quarters.

There can be no question about the curative influence of electricity in the class of cases indicated, when properly applied. The trouble is that so few persons seemingly know *how* to use it. Many essay its application who know absolutely *nothing* of its action therapeutically, but attempt it because it looks simple, has an air of mystery about it and is "handy." Witness its use by persons of all grades of intelligence and standing, without regard even to the most elementary principles of its action. Such experience is what has brought the use of the agent into disrepute in certain quarters; as much so as has the indiscriminate and blundering use of the knife brought that useful agent into disrepute in others. It is altogether a matter of knowing when and how. It is difficult indeed to define the relationship between currents and conditions. Almost as much so as it is in words to depict the intelligent touch. One may learn, however, if he studies closely the experience of others, and observes carefully and studiously the results of his own endeavors. In my experience there is no question of the power of the galvanic current to lessen vascularity of the uterine appendages, "condense" tissues, and render inflammatory, congestive, hyper-secretory and other morbid impulses comparatively inoperative. By persistent continuance this condition or status of relief becomes more and more permanent, and when accompanied by other local and constitutional influences becomes a fixture.

There is nothing within the whole range of therapeutics more satisfactory to me than to sit by my patient and note the benefit in both feeling and local condition so apparent to the willing observer, under the influence of the electric current in this class of cases. I wrap a copper ball electrode

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with absorbent cotton, soak the latter in a ten per cent. solution of cocaine, and introduce high into the vault of the vagina on the affected side. Over the ovarian region, or rather over the whole lateral abdominal surface I place either the membrane or clay electrode and connect it with one or other pole of the battery, according to circumstances. The cocaine serves to relieve the irritability of mucous membrane so often present under such circumstances, and even penetrates to some extent into the subjacent tissues, exerting a calming effect upon their nerve tendrils. Fifteen to twenty, and sometimes less, miliamperes of galvanism will serve to further destroy the hyper-sensitive condition of the uterus and its adnexa, contract the blood vessels, relieve congestion and control secretion. That such result naturally follows the proper application of this agent can be demonstrated to any body any day. There is no mystery about it and no need for any. It is simply a matter of demonstrable fact. In the application of this agent in the cases referred to I have learned to think, at least, that I get better results with the positive pole internally where secretion is free, and on the outside when the membranes and tissues seem dryer to the touch.

The *great* factor in the successful application of this agent is evidently the proper regulation of strength and time. I realize forcibly that this is a most difficult matter, and yet upon the accuracy of such adjustment hangs the result of either success or failure. A strong friend is capable of proving a strong enemy. An agent that is powerful for good is powerful for evil. In this connection a good rule to observe is "when in doubt go slow." I would rather in a given case commence the application of galvanism in the almost impalpable strength of five milliamperes for only as many minutes, than run the risk of injury from what I am pleased to call overstrain, or that disastrous effect pos-

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sible in such cases from too powerful an impression upon the (or what I presume to be the) local vaso-motor nervous organization. It will be perceived that I understand the curative influence argued for in this connection to be due to a physiological or dynamic action of the current through impressions upon the local nervous organization, and not to a traumation, chemical or mechanical, that can be induced by so powerful an agent. In cases of the kind under consideration there is no call for the destructive action of electricity. The aim is simply to secure that restrictive action upon local morbid activities, of which it is so profoundly capable, and which is so analogous in a local way to the effects of a restored constitutional energy in favoring recovery from many obstinate and otherwise incurable local affections. It is absolutely necessary, in introducing the use of galvanism, to test the susceptibility of each individual case. With a good rheostat one can gradually increase the amount until the patient feels it quite perceptibly. If slight increase is followed by sudden "starts" on the part of the patient, showing very acute susceptibility, it is well to be exceedingly cautious, and use, for a time at least, not more than ten or fifteen miliamperes for a period of five minutes. If such is subsequently found to be agreeable, it may be either increased in volume or in time. The former, in my experience, in chronic maladies, and the latter in the more acute. In those cases in which no complaint is entered by the patient until high power is attained, from seventy-five to one hundred miliamperes may be administered from two to three or four minutes, with the best result. In all cases, however, the general sensitiveness, the expression and movements of the patient under the use of the current, must aid us in determining the existence of possible idiosyncrasies, and the application of experimental knowledge. In all cases of the kind under consideration I prefer a repetition of the

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application each alternate, or at least every *third* day. If after half a dozen seances there is developed no constantly increasing improvement, as evidenced in lessened pain, tenderness, and general irritability, I conclude upon further investigation into the probability of existing suppuration. Not yet, however, abdominal section.

Another agency of conservatism in the diagnosis and treatment of diseases of the fallopian tubes, even in cases of suppuration, is catheterization. This procedure is one which has not been much followed, on account of its difficulty, its apparent inadequacy, and the lack of permanency in its results. It is a measure that I have within the past two years resorted to with great frequency, and with such a degree of success that I am impelled to refer to the process and its results somewhat closely. I had no instrument specially calculated for the purpose, but found a very efficient substitute in the syringe tube accompanying Molesworth's uterine dilator, and which I herewith exhibit. This instrument I have used in scores of cases. It consists, as you may see, of a fine, pliable metallic tube, having at its distal end, on either side a small aperture, so arranged as to avoid a direct stream, and at its proximal extremity is fitted with a socket into which the nozzle of a small syringe can be fastened. This instrument is as small in calibre as can be used with safety in an attempt at introduction, and is yet about as large as possible, and firm. It can, with care, be bent into the desired curve without obstructing the aperture through it, and is generally of sufficient length. If the uterus is straight, os patulous, and the uterine entrance to the tube equally free, no very great difficulty will be found in introducing the instrument. The uterus is held down with a tenaculum, or lies in the valvular speculum in a retroverted position, as is frequently the case, and with a sound the exact distance and position of the cornu of the

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uterus is made out. A mental estimate being thus made of distance and direction, the withdrawal of the sound is immediately followed by insertion of the catheter, which after some manipulation, is made to enter the tube to any required depth. Of course, where the tube is impervious, no introduction can be effected although temporary or partial stenosis is sometimes overcome by perseverance in gentle pressure. Where the uterus is tightly closed dilatation must be first resorted to, and if pronounced uterine flexion exists it may be quite impossible to accomplish the introduction at all, unless, possibly, after attempt at rectification of the flexion, which I have found to be a very difficult matter. I can now introduce the catheter quite readily where the os uteri is patulous and the tubes not occluded. This little operation is preceded by the introduction of cocaine into the uterine cavity, in all cases where there is any objection of note to the introduction of the sound. With a long-pointed uterine syringe it is an easy matter to do so, the latter instrument being held in position for a few minutes to prevent the immediate return of the solution. Furthermore, the catheter, immediately before using, is freed from the possibility of septic contamination through the atmospheric air which it may contain, by filling with sterilized water, which is easily retained in so small a tube by the force of capillary attraction, aided by the occlusion of the proximal end of the catheter either by the syringe or a plug of cotton.

By means of the small syringe attachable to the catheter any fluid contents of the falloian tube may be removed. Not only that, but agents of locally remedial value may be thereby introduced.

Aside from the solution of cocaine, used for its local and most valuable anæsthetic property, I know of but one remedial agent that I can trust the introduction of into the

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fallopian tube. That agent is the peroxide of hydrogen. It is the typical antiseptic—constitutionally harmless, and equally so to any tissue possessing aught but a *very* low vitality, it lays hold of and destroys devitalized organic products, cleanses the tissue surface to the very margin of active nutrition, and yet is unirritating, a gentle stimulant to reparative processes, and a tonic to mucous surfaces especially. Through the instrument exhibited, or some analogous one, this agent may be introduced in small or large quantity into the fallopian tube, under circumstances giving the most happy results. It is not best usually to introduce full strength of the peroxide found on the market. From a bottle just uncorked and fresh, it may be better to dilute one half; at least if the case is a new one, very sensitive to manipulation, and the distal extremity of the tube presumably unoccluded. Daily or alternate-day applications of this character will soon put the parts in a healthy condition, pus or no pus. The case may then be watched, occasional applications being made, until satisfied there is no further tendency to return of the trouble. I have found it desirable in women who are menstruating to make the application as soon as possible after the cessation of the flow, and even sometimes before it is quite completed, in order to forestall a reacquirement of the recently interrupted morbid action under the influence of the periodical congestion. When the distal end of the fallopian tube is occluded, and the tube relaxed to an extent permitting large accumulation of pus, etc., the peroxide may be advantageously used not only in full strength but in large quantity. In all these manipulations it is understood that there is established free drainage from the uterus.

If *both* ends of the fallopian tube are occluded and its walls distended with pus it is seldom, in my experience, that any entrance can be forced from the uterine cavity.

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In such case laparotomy, with probable removal of both tube and ovary, seems at the present time to be the only means of relief within reach. I wish, however, in this connection to close, with brief reference to a case of the latter kind recently coming under the care of myself and one of my colleagues, Dr. J. T. Stewart, of Peoria.

Mrs. B. had suffered for a number of years from recurrent attacks of pelvic and abdominal inflammation, complicated with the existence of a small subperitoneal fibroid tumor of the uterus. A very large pyo-salpnix of the left side was diagnosed, with extensive and firm, because long continued, adhesions to all the surrounding parts. The general condition of the patient was such as to cause the gravest apprehension that she could not endure a laparotomy. Finally we agreed upon a plan to evacuate the abscess and secure drainage. We at first aspirated and pumped peroxide of hydrogen into the cavity, which was quite large, but without satisfactory results. Finally we introduced the long aspirator needle into the sack, through the left vaginal wall and adjacent adherent tissues, as a guide, and followed it with the thermo-cautery rod, thus burning a large opening through which the pus flowed with great freedom. A drainage tube was introduced, the cavity washed out from two to three times daily for a couple of weeks, until the cavity was obliterated in so far as its pus-producing qualities were concerned, and without the loss of more than a dozen drops of blood.

The use of electricity in the treatment of myomatous and fibro-myomatous growths in the uterus is a conservative measure well known to every practitioner of medicine, and one that has proven its right to recognition in spite of condemnations from high sources. The growths are generally vastly reduced in size, if not obliterated, and the hemorrhages, for which ovariotomy seemed for a time to be

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the only resource, effectually controlled. My experience in that direction has been so satisfactory that to give it up would create a greater pang than any other therapeutic deprivation.

Without refering in detail to the valuable use of local massage, tamponade, etc., I wish to say in conclusion that I have in the foregoing discursive sort of way, endeavored to place in juxtaposition a few facts and thoughts, born of personal experience, bearing upon the more heroic and radical, and the conservative, features of modern gynecology. If I have thereby succeeded in conveying some useful hints, or in furnishing food for productive thought, I shall be abundantly content.

DISCUSSION.

DR. KATHARINE MILLER, LINCOLN:

Having from a rather limited observation—for I do but little gynecological work—acquired opinions perhaps unduly positive as to the frequency of the need of oophorectomy and salpingectomy, I was pleased to receive a few weeks since an abstract of Dr. Will's paper, indicating an effort to relieve by conservative means the many sufferers from tubal irritation and inflammation. It was especially gratifying also to learn that he is successfully practicing a method which has seemed to me indicated in many such cases, viz., tubal catheterization. It is a method with which I have no experience. I have thought of it as eminently practical but liable to certain dangers, at least in the hands of those not having constant practice in similar manipulations, and hence scarcely allowable to one not in active gynecological practice. These dangers are the risks due to somewhat forcible manipulation of inflamed structures in this region, and the possibility of puncture of the uterus through lack of dexterity, or in case of firm occlusion of the tubes. Such accidents would be rare, yet the ordinary sound has been so easily passed through the

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fundus into the peritoneal cavity that this seems to me a risk not to be overlooked. The dangers from manipulations of structures already inflamed and often adherent would be the common risk, and the cases where there are perceptible accumulations of fluid in the tubes without these conditions, while they occur, are not frequent. Dangers of sepsis of course, are foreseen and precautions taken, yet occasionally cases must occur where it will be almost impossible to guard against auto-infection from discharges from the uterine mucosa or the diseased tube itself, and where the slightest inaccuracy in manipulation would lead almost inevitably to most serious complications. Such obstacles however, we meet constantly. Such risks we must take in the attempt to relieve our patients, and no operation should be discarded which promises relief from serious conditions without mutilation unless its risks are vastly greater than those of relief by mutilation. However necessary and commendable, the removal of any organ or member is a mutilation to the body and only permissible when no bearable condition of health or life is possible without it. Were a corresponding mutilation of men frequently undertaken or even proposed for disorders of a similar nature to those for which many removals of uterine appendages have been performed, these operators would be prompt to denounce the proposition. The cases are but too frequent where such extensive disease occurs that removal of diseased structures furnishes the only hope of health or life. It should be as much a disgrace for an operator to have to exhibit as evidence of his skill normal ovaries and tubes removed for neuralgia as if he should preserve in his cabinet of specimens legs amputated for sciatica, and the effect on the disease is apt to be promptly demonstrated to be no more efficacious than that treatment for sciatica would prove.

The cases are rather frequent where we find "ovarian pain," so-called, accompanying menstruation. It is often intermittent and of a distinctly colicky nature, presenting all the characteristics of an obstructed peristalsis; often relieved when by free flow the uterus is depleted and the uterine opening of the tubes left patent allowing escape of mucus or serum. Many of these

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women suffer with an intermenstrual paroxysm of pain, and some will give a history of discharge, purulent or serous, following this and accompanying relief. Women have declared to me that "a gathering broke" in them regularly half way between the menstrual periods. In these cases the tubes retain their musculature sufficiently to empty themselves when distension becomes sufficient to excite peristalsis and even without intra-uterine treatment much relief may be given by mild depletents and soothing applications. Glycerine and tannin tampons in the vaginal vault are useful and even curative sometimes if combined with general measures to improve nutrition. The electrical treatment suggested by Dr. Will would find appropriate application.

In other cases of dysmenorrhœa there seems absolute occlusion of the tubes. This may occur in virgins and has often led to a diagnosis of obstruction at the internal os and treatment by its dilatation. It has happened to me to know of this mistake made by gynecologists of repute, and they have been nonplused by the failure to relieve. They have simply failed to dilate at the proper place. This obstruction may, like obstruction at the os, be purely spasmodic, and may yield to internal and local remedies applied with this in view. Since then, all operative measures have certain dangers, these remedies should first have a fair trial. Electricity at the vaginal vault is available.

Obviously however, most cases of pyosalpinx, like other abscess cavities, require drainage and cleansing, and many tubes filled with mucus or serous fluid can only be relieved by free escape of contents. In such cases permanent drainage is indicated, but is so far impracticable without cutting operations.

The use of peroxide of hydrogen, even in considerable dilution, would, it appears to me, be risky unless the uterine end of the tube were very freely dilated because of the formation of gases and risk of forcing acrid fluids not yet disinfected by its action out of the ovarian opening of the tube. Its unirritating nature makes it in other respects and when this danger is avoidable, quite an ideal antiseptic for these cases.

I congratulate Dr. Will on his successful use of a method of intermittent drainage with thorough cleansing when needed,

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whereby a considerable number of cases may be rationally and *conservatively* treated.

DR. J. H. ETHERIDGE, CHICAGO: .

I was very much interested in the paper of Dr. Will. I think it is in the right direction. I must confess, however, that I have had very little opportunity to see the kind of gynecological surgery which he refers to as being a common thing, in which so much mutilation is carried on. I have had very little opportunity, comparatively, of seeing the work of other physicians, and I, therefore, judge that he refers to something that I know nothing about.

Concerning the treatment of cases of pyosalpinx, I will say that ninety per cent. of the cases of metritis are of septic origin. The common idea exists in the minds of a great many physicians that metritis is simply an inflammation of the uterus. To-day we know that more than ninety per cent. of the cases of metritis arise from infection inside of the uterus. The idea is that this inflammation must be treated the same as all infectious diseases, namely, by removing the products of disease and providing free drainage. What is done now is to dilate the uterus, remove the whole interior of the body with a sharp spoon, wash it with aseptic or cauterizing solutions, pack it and let it drain. A few physicians have found that pus tubes have emptied themselves voluntarily through the uterus. It is considered good treatment for pus tubes to dilate, curette and pack. There is very little harm or danger attached to it when it is done with reasonable care.

Concerning electricity, I fully indorse what the Doctor said in regard to relieving painful difficulties, such as fibroid tumors, with it. I think he was a wise man when he said "You can stop *some* hemorrhages with electricity, but not all." As for removing a fibroid tumor itself by it, I can not say much in favor of it. There is one other point concerning conservatism in the treatment of gynecological patients to which the attention of the profession ought to be called. We have gynecological cases coming to us for examination, and we are astonished to see how many difficulties of the pelvis are relieved by

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medicines. We are surprised to see how many amenorrhœas, dysmenorrhœs and menorrhagias are modified by judicious treatment. Let me illustrate. Embryologically, we know that the kidneys and ovaries come from the same source, and that the vascular nerve supply comes from the same source. The activity of one will influence that of the other. Young girls troubled with amenorrhœa go through a course of treatment of tonics, uterine stimulation, and in the course of time they menstruate again as they ought to do. If physicians would generally look upon the young women who fail to menstruate with a view to directly finding out the cause of the activity of the tubes and ovaries which supervise the process of menstruation, they would often and often find that there is, coincidentally with the decrease in their function, a decrease in the kidney excretory function; in other words, we find patients suffering from renal insufficiency in this way unable to stimulate the function of the ovaries. I have a case in illustration which will exemplify this very satisfactorily. A young woman, nineteen years of age, menstruated five months, pregnancy suspected, and examination showed it. Examination of the kidneys showed that she was passing less than fifty per cent. of urinary solids. Instead of passing 1,050 grains she was passing less than 428, or one-half less than she ought to pass. This patient was given no local treatment, no electricity, but simply a stimulating diuretic treat ment—the acetate of potash and digitalis. In the course of a few weeks the urinary solids continued to be over 1,300 grains; she menstruated thereafter. It simply shows the cause and effect between the functional activity of the kidneys and other organs as manifested in this one case. I have seen gratifying results in a great many instances by instituting treatment in this way, and which is one of the possible ways of furthering the interest of conservatism in gynecology.

DR. O. B. WILL, PEORIA:

I am placed somewhat at a disadvantage in this discussion, in not having time to finish reading my paper. In the remaining portion I treated of several points that have been brought out in the discussion by the doctor to whom an abstract had

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been furnished. First, with respect to the use of the catheter. I admit there is danger in the use of this instrument in the class of cases which has been mentioned. I also refer to the introduction of peroxide of hydrogen, and particulary with respect to the generation of gas, and further on advocate dilution of the peroxide of hydrogen as we find it in the market, making only a 50 per cent. solution, that prevents the rapid formation of the gases to which reference has been made. I use it only in half strength. I find under these circumstances, even if the solution does escape into the abdominal cavity, it does no harm. I further believe that where pus has found its way into the peritoneal cavity, peroxide of hydrogen has often followed it and destroyed it. Pain is set up for a time, but it does not last long. Of course, where the uterine extremity of the tube is firmly occluded it is utterly impossible to use this at all. It is only to be used where the os uteri is quite patulous, or has sufficient dilatability and where we can by the exertion of a slight force secure entrance of the catheter to the tube. In the case I mentioned further on, where both ends of the tube were occluded, where there were extensive adhesions of all the surrounding parts, we used an aspirator needle, introduced through the vault of the vagina into the pus cavity of the tube, found the pus, followed the introduction of the needle by the thermo-cautery and secured the best possible drainage. In about three weeks the cavity had closed up and the patient was well. That is one way of securing drainage where extensive and firm adhesions exist to the surrounding parts and where there is occlusion of both ends of the tube.

Dr. Etheridge speaks of not quite apprehending my reference to the matter of mutilation. I will simply say this, that Dr. Etheridge is an expert laparotomist, and 90 per cent. of the surgeons who are doing laparotomy are not experts, and even where they are, it means the removal of some portion of the anatomy. It would conform much more closely to our ideal if such organs were restored to their proper function rather than removed, and if Professer Etheridge could rather restore the tubes of patients to their proper function, he would be meeting my idea of what would be a better surgery.

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With respect to the matter of fibroid tumors I agree with Dr. Etheridge that in very few instances are they *destroyed* by electricity, but the fact remains, based upon indubitable evidence, that the growth is frequently arrested, hemorrhage stopped, and the patient rendered so comfortable as to preclude the necessity for further treatment.

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LACERATION OF THE PERINEUM.

S. M. WYLIE, M. D., PAXTON.

If an apology is necessary for taking up the time of this society in the discussion of the subject about which there has so much been written as there has upon perineal injuries following parturition, it is to call attention to the apparent indifference existing in the minds of the general practitioner as to their importance, and at the same time to insist upon a more universal custom of their immediate repair than at present prevails.

The importance of primary repair in these cases can not be overestimated, nor can the fact that it is the duty of the accoucheur to attend to this be denied; and yet it receives so little consideration oftentimes that years of needless suffering is entailed upon woman which could have been averted by timely interference.

The time has certainly come when no physician should attend a case of confinement who is not competent and willing to immediately repair these common injuries of the external genitalia, and the time has certainly passed when the evils resulting from such neglect can be ignored. The cases demanding such interference are common, and will be so long as women continue to bear children. A glance at the construction and functions of the female perineum will convince anyone that injuries to it should be averted, if possible, or at least repaired when they do occur, as they will in about twenty per cent. of cases.

The pelvic floor is a diaphragm stretching from the

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symphisis to the sacrum, supporting in women as in men the abdominal viscera, but constructed with a parturient outlet, as well as having its rectal and vesical functions, and still must be strong enough to resist the intra-abdominal pressure to which it is subjected in both sexes. If we divide it as Hart does into two segments, the pubic segment made up of loose tissue, bladder, urethra, anterior vaginal wall and bladder peritoneum attached to the symphysis pubis loosely constitutes a loose, movable segment.

The posterior of sacral segment attached to the sacrum and coccyx consisting of rectum, the perineal body proper, embracing the transversus perinei, bulbo-cavernosi, sphincer ani and lavtor ani with pelvic fascia and connective tissue and the posterior wall of the vagina, we have a dense tissue segment anchored to the sacrum and coccyx. Both segments together support the uterus, tubes and ovaries, bladder and bowel, and not of the least importance gives support to the pelvic vessels, and rupture of any portion of the structures of this pelvic diaphragm, muscles or fascia, diminishes the support of important pelvic organs in walking or standing, as well as diminishing resistance to intra-abdominal pressure which is especially great at stool, and produces a condition of affairs discomforting to the patient in proportion to the extent of the injury and loss of support.

One of the first results of such accident is usually a sagging or falling down of the anterior vaginal wall, and with it the urethra and posterior wall of the bladder, constituting a cystocele, rendering the complete evacuation of the bladder impossible, and causing a retention of a portion of the urine to become ammoniacal, and produce vesical irritation; secondly, as the normal outlet of the bowel at the rectum is downward and backward, following the

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anterior curve of the sacrum, the perineal support which compelled the fœcal mass to follow the natural channel, being withdrawn, the fœces follow the plane of least resistance, pushing out into the vagina distending and paralyzing the circular fibers of the gut, forming a sack, pushing and stretching the posterior vaginal wall before it, constituting rectocele, a true hernial protrusion. The stretching of the posterior vaginal wall drags the cervix forward and downward, favoring descensus of the uterus as well as retro-displacements of it, and dragging on the tubes and ovaries, frequently misplacing these also.

This retro-version or flexion of the uterus produces another element of constipation by a mechanical pressure of the bowel against the sacrum and prevents the return of the venous blood from the hemorrhoidal plexus, which is another common complaint among these patients. The displacements of the various parts with relation to each other assume an almost unlimited variety until anything like a perfect result from secondary operation or series of operations, no matter what methods adopted, is many times an impossibility.

This results in surgical interference months or years afterward in these neglected cases where there has been the displacement heretofore mentioned, with parametritic inflammations and adhesions, absorption of interstitial fat, atrophy of unused muscles and ligaments, degeneration of intestinal and vaginal mucous membrane from exposure to air and dust until it has become almost epidermoid, sub-involution of the uterus and vagina from impediments to the pelvic circulation, accompanied by the various nervous phenomena, headaches, backaches, palpitations, plevic pains, derangements of digestion, circulation and nutrition with all kinds of reflex outcries from distant parts of the body. While most of these cases, I am glad to say, are materially

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benefited or permanently cured by secondary operations, very frequently irreparable injuries have been sustained, and at least unnecessary suffering entailed upon the patients, which could have been averted by prompt and intelligent interference at the time of injury. An operation first or last must be done for their relief, and if done at first it is a simple and usually satisfactory proceeding, and will prevent what in a few months a skillfully performed anterior colporrhaphy, posterior colporrhaphy, perineoplasty or hemorrhoidal operation may altogether fail to accomplish.

Spontaneous cures of these neglected cases or restoration of the functions of the pelvic floor without surgery is an impossibility; temporizing with stringent washes, local appliances and medicated tampons, are unsatisfactory; the use of pessaries to support such displacements is medical madness, all of which the laity are fast learning to recognize. There is such a widespread misapprehension on the part of the profession concerning the extent of the injuries requiring repair that I believe a wise rule is to repair every case whether mucous or muscular. You thus remove one common source of possible septic infection, for it will be remembered that the lymphatic vessels of the genitalia form a network on the internal aspect of the labia-majora, labia-minora, and around the urethra and vaginal orifices, all opening into the inguinal glands, the lymphatics of the upper portion of the vagina opening into the hypogastric glands. These anatomical facts have the very highest pathological significance to the obstetrician, for the unusually rich blood supply and lymphathic distribution here accounts for the fatal rapidity with which septic matter enters the general circulation through apparently insignificant wounds of the external genitals. Bacteria may pass through the walls of the vessels and thus gain entrance into the general circulation, or as Lusk claims, pass along the lymphathics into the perito-

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neal cavity, and extending through the diaphragm set up the pleurisy and pericarditis so common in septicæmia. Again, so far as the subsequent suffering of the patient is concerned, I am satisfied that apparently insignificant tears (so called) where some of the fibers of the transversus perinei, levator ani, and fascia are ruptured, are worse on account of the frequency with which they are followed by cystocele, rectocele and displacements with their concurrent evils than many cases of complete rupture through the external sphincter into the bowel, for in the latter cases, not infrequently inflammatory exudations have been thrown out around the uterus, which prevent its descent, and the suffering of such patients is attributable to the incontinence of fœces or flatus or catarrhal irritations of the mucous membrane of the bowel following exposure to air, dust and vaginal secretions, and very often decensus or prolapse, if they come at all, come late, after the supports have given away from long continued traction and intra-abdominal pressure.

When should recent cases be repaired? Immediately after the delivery of the placenta, unless there exists some especial contra-indication such as profound exhaustion, certainly within twelve hours. There should as little time elapse as possible, the longer it is delayed the less the liability of securing primary union. I have closed them forty-eight hours afterwards in one or two cases and obtained good union, but unless it can be done before this it is better to wait for a secondary operation. I have also attempted closure late by freshening the granulation but with no good results. One of the favorable features for union in these cases is the fact that the pelvic ligaments and abdominal muscles are already relaxed and intra-abdominal pressure from flaccidity of the abdominal walls for some weeks is so slight that it is favorable for immediate union.

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The per cent. of primary unions likely to obtain, according to Mundé, is one-third or one-half. These figures refer, I presume, to hospital cases. In the country with ordinary skill and attention to antiseptic details in the method of doing it and competent nursing afterward, I think eighty to ninety per cent. is not too high an average. If it were only fifty per cent. the benefits derived from it are a sufficient argument in its favor. I do not regard the venous enlargement of the labia, like hæmatomas from venous obstruction as contra-indications to immediate repair.

A few hours may be given for the improvement of the circulation, and wire used for the outside stitches, which can be tightened as the swelling subsides, although I have never employed this method. The operation can usually be done without an anæsthetic, if done immediately, and is not attended with very severe pain, owing to the insensibility of the tissues from pressure of the head during labor. In lacerations of the first and second degree a ten or fifteen per cent. solution of cocaine may be mopped over the wound just before the sutures are introduced and produces sufficient anæsthesia of the tissues to permit suturing without a special discomfort to the patient. If the tear be extensive, involving the entire recto-vaginal septum and involving the sphincter ani, it is always better to give enough chloroform to permit a deliberate and careful approximation of the parts.

In every case the accoucheur after delivering the placenta should pass the finger into the rectum and thumb in the vagina and determine if the normal perineal thickness exists, and if it does not, spread the limbs apart, getting a sufficient light upon the parts to ascertain the extent and character of the injury, informing the patient or friends at the same time of its existence and the necessity for attending to it at once. Place the patient cross-wise of the bed, with the buttocks on

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the edge, having the legs spread and supported by assistants. Shave the labia with a razor and scrub with soap and sublimate solution one to three thousand thoroughly. Irrigate the vagina with sublimate solution, one to four thousand or five thousand, arresting the oozing if necessary, by ligature or applications of hot water to the surface of the wound, placing a sponge in the vagina above the upper angle of the tear to dam back the blood from the field of the operation, and trim off any ragged strips of tissue which may interfere with primary union. The only instruments usually required is some number three chromicized cat-gut, scissors, needle forceps and short curve Martin perineal needle. The instruments should have been boiling while you are getting ready and brought to the bed immersed in a carbolic solution of five per cent. Beginning at the upper angle of the vaginal rent, sew in the deepest portion of the wound with continuous suture until you reach the outer and lower part of the rent. You have thus narrowed the wound to the extent of the tissue taken with each sweep of the needle; from this lower part of the wound sew back to place of beginning at the upper angle again by continuous suture narrowing the wound still more and approximating the parts so carefully that there is no pocket left for the collection of secretions. After the edges have been coapted in this manner you may, if you think advisable, put in two or three tenion sutures of silk or silk-worm gut to prevent straining upon your work; these will have to be removed the tenth or the twelfth day. Sometimes an iodoform or sublimate collodion placed over the line of union tends to prevent the lochia from getting into the wound. I have frequently employed this, but am not sure of its absolute importance. Saline laxatives should be given daily to keep the fœces soft, and for some days no attempts at straining should be permitted by the patient. If the bowels want to move,

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have an enema administered and a bed-pan used. The more quiet the wound is kept for a few days the better will be the prospects for a primary union. If the lochia are abundant and offensive, weak injections of sublimate solution may be used, care being taken to use as small a syringe nozzle as possible and in introducing it, crowd the anterior wall of the vagina so as not to molest the wound. Some weak antiseptic solution allowed to trickle over the external parts after defacation will assist as a matter of cleanliness and favor union.

It makes little difference whether silk, silk-worm gut or chromicized cat-gut sutures are employed, so long as they are aseptic, and they can be made so by the physician himself or obtained at any of the shops; nor is the manner of closing material, whether by continuous sutures or deep interrupted ones, so long as it is done accurately and antiseptically. The length of time the patient should keep her bed depends largely upon the nature and extent of the injury, but as a rule it will require at least two weeks for anything like satisfactory repair to take place in a deep wound. This time spent in bed, I believe, is an advantage to the patient in other ways, as it allows involution of the uterus and vagina to take place and gives time for the contraction of the ligaments and improvement of the pelvic circulation which are often interfered with in patients getting up too soon. In country districts lying-in women are encouraged or allowed to leave the bed too soon, and the more universal observance of repairing these cases would necessitate longer confinement, and thereby save considerable after trouble.

Finally, as custodians of human life and conservators of public welfare, I know of no field where such a trivial but timely interference can more certainly balk disease and ward off subsequent suffering to as great a number of cases

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as the conscientious and intelligent repair of these accidents.

It is to encourage a more universal adoption of it that I offer as an excuse for writing this paper.

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INSTRUMENTAL OBSTETRICS.

BENJAMIN H. HARRIS, M. D., GROVELAND.

Parturition is purely a physiological process, as much so as any other vital act by which life and develolpment are maintained. The female economy is peculiarly adapted, anatomically, and in the arrangement of its parturient forces, for its successful accomplishment. Were it otherwise, nature would have failed to provide in her organic work, for the certain achievement of her most important purpose, the perpetuation of the species. Digestion, assimilation, and secretion are not more truly results accomplished in obedience to physiological action, than are the dynamic processes by which the fœtal body is extruded from its uterine abode through the pelvic passage into the world. Unlike all other physiological processes, called into action only at extended and very irregular periods of time; like all other, its periods of activity frequently occur and progress under pathological conditions that retard, painfully obstruct and sometimes unhappily defeat its objective fulfillment. Also, unlike almost all other physiological processes its failing or inert potentials may be assisted or entirely replaced by the appliances of art, and a happy conclusion attained where nature's incompetency would have necessitated extinction of life in mother and child. The categories of labor that make it to consist of three stages are universally accepted as a sufficiently accurate classification of its progressive evolutions; and, were the contingencies such, that in all these several stages the parturient

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forces of nature were held in abeyance, it would, undeniably, be possible for the resources of art, employed in substitution, to successfully accomplish the task that otherwise would have remained unperformed. In such emergencies the os uteri can be expanded by the use of any of the multiform methods of dilatation. By massage, abdominal pressure and oxytocic medication the fœtal head can be forced to engage in the pelvic brim. A finger nail may rupture the bag of waters, and, the forceps artistically applied can through the natural passage extract a living child. Or, should occasion invite a different proceeding the hand of the accoucheur can surgically through the abdomen be made to explore the womb and liberate with safety fœtus and secundines without pain to the mother, and, without trespassing upon paths of delivery indicated by the hand of nature. The feasibility of such brilliant achievements in the field of obstetric practice has proffered opportunity for much mischievous teaching, suggesting conceptions of the use of the forceps in midwifery that would pervert them into a merely ingenious tool for the deft extraction of a foreign body, and, enticing the dauntless accoucheur to reject the assistance afforded nature's sometimes inadequate forces by an efficient, but undemonstrative therapy, that he might substitute the expedition and obtain the eclat reserved for instrumental dexterity. It may be said without displaying a disposition to ridicule, that the exploits described in the literature of, so called, advanced midwifery suggest the inquiry: why an expectant mother should be abandoned to many days infliction of ineffectual pain to procure dilatation of the uterine os, when due expansion by artificial means can be obtained in the lapse of a few hours? Why permit the amniotic sac to yield only to the protracted torture of oft-repeated throes, when its rupture can be secured in a moment by the painless thrust of a bodkin? Why allow a

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fœtal head to linger hours at the pelvic inner door vainly waiting admission when a forceps facilely applied by expert hands will quickly, safely and happily conduct it from its point of distressful tarrying through the outer portal of exit into the world? When a bedridden woman is now relieved of diseased appendages by a quick and non-dangerous laparotomy, and, awaking from anæsthetization unconscious of pain, can be made in due time to arise from an invalid couch to the enjoyment of health; why should not the well equipped accoucheur in every case where dystocia in excess had previously occurred, whether from pelvic insufficiency, or from other causes, without hesitation, at the very incipiency of labor become a Porro, or a Sänger, and by a surgical entrance of the womb through the abdominal walls save the life of the mother and extricate from its death prison a living child, leaving the painful possibilities of the natural passage untested, thus adding to our coming population MacDuffs and Cæsars numberless "as leaves in Vallombrosa?" Such questions find an answer in the consideration of a few pertinent facts. Illegitimate and concealed pregnancies, proverbially, terminate without serious accident. The pretentious assistance rendered by ignorant and superstitious midwives among both savage and civilized people adds nothing to the number of children born into the world, while their senseless maneuvers and nauseous potions may diminish something from the total of living births. It must also be admitted that the intelligent aid of the accomplished accoucheur, while it doubtless affords comfort to his patient and diminishes much suffering, increases but slightly the sum of population. Connecting with these the additional fact that vast numbers of births occur without the presence of doctors or midwives, and with none other attendance than that of friendly neighbors, it seems abundantly demonstrated by the world's experience

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and the evidence of physicians (when they choose to testify) that the birth of ninety-nine per cent of the human race could be effected without professional assistance. But as abnormal conditions with their requirements can only be comprehended by a study and knowledge of their opposites, the possible unaided fulfillment of parturition in so large a per cent of pregnancies, while it estops the undue pretensions of those who would largely substitute instrumental for natural delivery, derogates nothing from the importance to the accoucheur of the most thorough medical education, nor from the cogency of the reasons that demand his attendance and supervision in cases of normal labor. Pathological conditions may be obviated by means of a rational therapy. Anæsthetics and anodynes can mitigate the severity of superphysiological pain. Excitants, oxytocics, and encouraging words of reasonable promise may add strength to waning parturient effort and shorten the duration of labor. The employment of a scientific prophylaxis added to an enforced purification of cleanliness will avert a disastrous puerperium, making the service rendered by the obstetrician a ministration of blessing to motherhood, without involving the use or display of an instrumental armamentarium. It is not to be denied that there are many cases in which instrumental interference is justifiable, and sometimes obligatory; but such are to be regarded as emergencies arising as very infrequent exceptions to a constant regularity and efficiency in the completion of a physiological process. The consideration of the conditions demanding such interference and the determination of the most eligible methods of procedure, although thus limited, imposes the solution of the most difficult problems in the teaching and practice of midwifery, propounding questions that never have received and yet anxiously solicit uncontroverted answer. In seeking to meet such inquiries with a definite and conclusive response,

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there is no relevancy in an appeal to the successful results obtained in the more recent major operations by the great masters of obstetric surgery. Consummate skill, scrupulous asepsis, reinforced by a most perfect comprehension of the functions and relations of all implicated tissues have transformed impossibles into probabilities, challenging a freely accorded admiration mingled with the tantalizing regret, that of all the myriad array of the world's physicians only the merest handful are sufficient for such things. There is compensation, however, for the lack of this species of the generally unattainable in the thought that necessities demanding its intervention scarcely ever exist.

It is an extraordinary event in the life practice of physicians to meet with a case requiring the Cæsarian section; and conditions indicating a necessity for the high application of the forceps, are fortunately, but rarely encountered. Far more frequent are the instances where, to the anxious accoucheur, a resort to instruments of steel to effect delivery seemed imminent, an enlightened appreciation of the forces and mechanism of labor awaiting with commendable patience the action of the applied resources of therapeutics, have enabled him to witness a natural delivery, accomplished without detriment to the mother or life of the child. In grave contradiction to all utterances maintaining the entire freedom from danger of instrumental delivery, stand the statistics of gynæcology and the records of obstetric literature; both replete with admonitory evidence, teaching that the implements for forcing childbirth, though necessarily employed, menace the integrity of the maternal tissues and fœtal encephalon in proportion to the greater or less degree of the skill and experience of the operator. No teacher is endowed with a brain, nor faculty of teachers with the miraculous gift to graduate medical and surgical Minervas! The diplomatized student is but

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the physician inchoate; the ripened fruition must be a product of studious postgraduate development and growth. Unlike poets, physicians are made, not born. Could the secrets of the lying-in chamber be revealed, it is to be feared, the few instances similar to the sad and oft quoted case of the Princess Charlotte of Wales, dying from the supine inefficiency of ultra conservative midwifery, would be more than overshadowed by the dread array of lives sacrificed by a merciless impatience, or to a vain ambition of becoming a triumphant agent in substituting the rapid achievements of instrumental art for the slower ministrations of Nature. Though years of didactic and clinical teaching are prerequisites indispensable to the advent of the student as a qualified practitioner, it will not be denied, that it is in the parturient chamber, and not within college structures nor hospital walls that the student acquires the knowledge, unteachable in books and lectures, that develops him into the full stature of an obstetrician. That it is among scenes where, often through long tarrying, he notes the pauses often arresting the progress of natural labor, and learns to recognize them as occasions invoking patience and forbidding action. Where the eye distinguishes the languor of rest in the intervals of vigorous expulsive efforts from the exhaustion following expended powers. Where the ear is taught to correctly appreciate the significance of the varied cries of a woman in travail, too often misinterpreted as Nature's appeal for instrumental aid. Where the hand of manipulation and the digital touch are tutored approximately to determine the progress and status of labor, advising the judgment in its decision regarding the presence or absence of conditions demanding the intervention of art.

In the opinion of the writer, as all popular traditions and ancient authoritative obstetric teaching convey the im-

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pression that childbearing is a semi-pathological dispensation visited upon woman as a penal infliction for an imaginary offense, the assertion of an opposing sentiment cannot be regarded as a retrogressive step. Neither will the motive forces impelling the car of rational obstetric progress be diminished in their capacity for beneficence by the interposition in their current of the rheostat that embodies the physiological nature of parturition. Indeed, the vocation of the medical profession should be, in part, to disabuse the female mind of the unwholesome thought, that motherhood is only attained as the result of a pathological ordeal crowded with dangers and presided over by Death. Rather, let all voices echo the cheerful truth, that the travail of childbirth is a Heaven-blest endurance conducting to the sacred delights of parentage and creating the queenly empire of FAMILY and HOME.

DISCUSSION.

DR. H. C. JONES, DECATUR:

In the eloquent words of the paper to which we have just listened, nature and conservatism have been ably and justly championed. It is true, as has been stated, that parturition is as purely physiological as digestion, assimilation or secretion, but are we not each one of us daily called upon to aid, amend or supplement the imperfect performance of these functions by the resources of our art?

It may be true that the moral courage of the accoucheur is severely tested by the question when to use instrumental aid in obstetrics, and as Dr. Oliver Wendell Holmes has said of the prospective mother, "God forbid that any member of the profession to which she trusts her life, doubly precious at that eventful period, should hazard it negligently, unadvisedly, or selfishly." The use of forceps as a time-saving device for the busy practitioner or for self-glorification needs only to be mentioned to be condemned, and yet the fact remains that their

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proper use in appropriate cases is as reasonable as that of the catheter. Granting then that instrumental obstetrics has a right to be considered; three problems confront us, viz.: When to operate. Which operation to select. How to do it.

Professor Miller said to the post-graduate class of Rush Medical College in 1883 that he used forceps in about one case in seven, and gave as an approximate rule that their use was justified whenever the second stage of labor had continued over two hours with no immediate prospect of natural termination.

My friend, Dr. G. W. Kemper, of Muncie, ex-president of the Indiana State Medical Society, has tabulated systematically his first one thousand cases of labor. In a reprint from the *Medical News*, which he has sent me, I find he used the forceps thirty-seven times or once in twenty-seven cases, although he admits having used them once in the first 300 and ten times in the last 100. He used them four times for convulsions, once for after coming head, once for face presentation, and thirty-one times for uterine inertia or tedious labor. As a result of this conservative experience he is convinced he has "seen infant mortality lessened and maternal suffering diminished in numerous cases by a timely resort to forceps."

To me it seems clear that—always presupposing the first stage of labor complete or nearly so—*first*, when deformity (previously undiscovered) renders natural labor impossible; *second*, when eclampsia has resisted reasonable trial of therapeusis; *third*, when the fœtal head has remained *absolutely stationary* after repeated uterine and abdominal efforts at expulsion, then, in either case, conservatism must surrender its rightful first place and art interpose.

Which operation to select depends on conditions in each case, but forceps is easily first choice. I had thought of craniotomy next, but Dr. T. G. Thomas says in last week's *New York Medical Record* that "every progressive obstetrician will relegate to the desuetude it deserves that sad and disgusting procedure." Cæsarean section is a revived operation which in the light of modern achievements in surgery is worthy of consideration.

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For myself I have used forceps fifteen or sixteen times in 350 cases, or once in twenty-three cases, without a still birth, a permanent mark, or the loss of a mother.

The application of forceps above the brim or when the head bulges the perineum are emergent operations. The usual site of application is in the middle of the pelvic strait. Strict asepsis, gentle and careful introduction of the blades, slight compression and moderate intermittent traction, with limited lateral motion makes the operation usually simple, safe and successful. In my own experience but a few minutes were required for application, and but fifteen to twenty-five minutes for delivery, except in two instances, both in the same patient, a deformed woman four feet four inches in height, twenty-six inches around the pelvis, and nine inches between the anterior superior spinus processes, whom I have delivered twice with forceps, notwithstanding a prior expressed opinion of two competent physicians that she could only be delivered by craniotomy or section. In the first instance my forceps were applied to the head for one hour and a half, and the last time one hour before delivery was effected, with perfect success. Two unblemished children, one of two and a half years, and one of four weeks are living testimonials not so much of skill, as of tireless patience and deliberate care.

In conclusion as practitioners let us weigh justly the claims of instrumental obstetrics. Conservatism becomes us all, especially the "Doctor inchoate" or "newly diplomatized," but would the doctor insist that they never go near the water until they learn to swim?

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CARE OF THE PERINEUM IN LABOR.

ELLEN H. HEISE, M. D., CANTON.

It was undoubtedly the original design that the fœtus should, at term, unfold from its ovoid form and traverse the parturient canal, emerging without detriment to mother or child.

The occasion of injury to the pelvic floor of the mother. and means by which such injury may be avoided, will be proper subjects for discussion until such incidents cease to be common in labor. Here, as elsewhere in medicine, preventive measures bear the proverbial proportion to remedial ones.

And it is this phase only that I purpose to consider at this time. Excluding instrumental cases and those in which the fœtus presents in an unusual manner or is of unusual form or development, I would mention two common conditions or circumstances which threaten the integrity of the perineum.

They are { 1. Inelasticity of the parts. 2. Failure of the presenting part to revolve properly under the pubic arch.

The relative size of the ostium vaginæ might be counted as one, but it has little bearing on the result as compared with the quality of distensibility.

The parts immediately concerned consist of elastic integument, a redundant mucous membrane between which, imbedded in cellular tissue, are the sphincter and con-

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strictor vaginæ muscles—slight, and having no bony attachment.

These muscles offer a slight resistance to dilatation until tired out.

There is almost no limit to the elasticity of the integument and cellular tissue if the tension be gradual enough.

The Indians demonstrate this fact in some of the ceremonies connected with their Messiah craze, when they make two long parallel incisions or slashes in the body, transfix the intervening integument with a stick or skewer which is cordially pulled and jerked by their associates, with the result of lengthening these flaps into loops of incredible length.

This is, indeed, a barbarous practice, but it seems almost equally so to me when I hear of such rapid labors as often occur with the most disastrous effect on the narrow, undilated pelvic outlet.

And this haste is not only permitted, but I regret to say sometimes perpetrated by physicians, by reason of carelessness or ambition to be considered expeditious.

It is claimed that age lessens the elasticity of these parts, and yet we find that a rectocele or cystocele becomes more and more troublesome as age advances, on account of the relaxation of the tissues, and it is true throughout the body that all but the denser structures do become more yielding.

But this leads us to consider that it is the aponeurotic lines which are at fault. It is the points so strengthened which become the weak ones when it comes to a question of extreme tension.

The line of junction of mucous membrane and integument claims our attention, and, relatively, too much attention.

It is not the margin of the outlet alone which should

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demand our care but the upper entrance into what we may call the perineal strait.

Looking at the pelvic floor from above we find the triangular ligament in front and the levator ani on either side completing the pelvic diaphragm.

From below we find the perineal body the keystone in this inverted arch. And it is along the lines of junction of the vagina with these parts where lacerations occur.

When in labor the middle portion of the vagina is quite distended we may often observe a constriction corresponding to the insertion of the levator ani muscle into the vagina, and I am satisfied that our most troublesome tears begin at this point.

The high lacerations are seldom central whether anterior or posterior. They may extend upward or downward, or, as is more likely, in both directions from this point, but they, in my opinion, start in this line, either where the levator ani meets the triangular ligament anteriorly, or at the point where this muscle leaves the rectum and begins to be inserted into the side of the vagina.

As this is the point most likely to be injured so it is most apt to be overlooked.

This boundary line should disappear in all cases as it does in many; as does the narrowing of the cervix uteri at the internal os.

Where this fails to occur spontaneously and in time, it should be noted and provided for.

I have no new methods of dilatation to offer, but would protest against routine treatment.

It is the nicety of distinction in cases and in the application of remedial measures which yields satisfactory results.

Manual dilatation is no doubt advisable in an occasional case, but it should be done with gentleness, simulating the

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even pressure of the fœtal head, or better yet, of the bag of waters.

If it is done, that it should be with a clean hand goes without saying.

I believe the obstetrician's hands should be as clean as the laparotomist's.

Many who would not dispute this statement seem to forget the fact that they operate on an unprepared patient and under not strictly aseptic bedclothes.

I am, for the sake of cleanliness, as well as for the relaxing and comforting effect, quite apt to offer my patient the advantage of a hot sitz bath, although this is done early and sometimes repeated during the first stage of labor.

When this is impracticable, hot fomentations partially fulfil the object of the bath.

Having noted the relaxation which follows vomiting, I have come to use in some cases, small and repeated doses of dovers powder, never to act as an emetic; but the combined anodyne with the nauseating effect are sometimes to be preferred to an anæsthetic, which latter I do not hesitate, in selected cases, to use to such degree as seems safe and required.

One of the most valuable agents, however, is *time*.

It is also a delicate matter to know just how to make use of this important factor so as to subserve the interests of both mother and child.

Epesiotomy has a narrow field of usefulness. But in old primipara I have found it useful, as the margin of the vulva is apt to offer obstinate resistance, and the lateral incisions, beside widening the aperture furnish artificially weak points which by their situation are less apt to extend, as, when the tense margin is divided the structures beyond are more or less elastic, while a central laceration begun in

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the raphe will give less additional space and is much more apt to extend upward.

Failure of the presenting fœtal part to properly revolve under the pubic arch, undoubtedly causes injury to the perineum in numerous instances.

This is most clearly demonstrated in those cases where the most prominent part of a presenting head perforates the perineum and enlarges the opening until it takes in the natural outlet.

The mechanism of labor is indeed complex. We have descent of an unequally flexible body through an irregularly cylindrical canal, which is bent upon itself to form an elbow at the junction of the lower with the middle third and whose varying diameters invite descent in a spiral direction.

From the point of greatest curve, resistance and counter pressure are prominent factors and determine the direction of progress in a circle whose center is in the pubic arch.

At this time the cervix should have retracted and the abdominal muscles, as also the levator ani, begin to complement the expulsive uterine force.

The position of the woman up to this time, under favorable circumstances is naturally and instinctively the upright, allowing gravity to favor descent. But when this point is reached, she seeks a different position.

English physicians insist on lateral decubitis, while those of the continent prefer the dorsal. But in America we think the doctor at fault who is unable to deliver in whatever position the patient instinctively prefers or varying indications dictate.

Some time ago I conducted a series of Swedish cases in which a majority of them, after walking about during the first stage, immediately on the advent of the second, knelt at the side of the bed, resting the head on the arms, the arms on the bed, while such of them as took to their bed

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would throw their arms over the shoulders of the husband or other assistant. In this position the uterus can be steadied by the hand over the fundus; and after my curiosity subsided, I found I had a very good command of my patient. And subsequent consideration has shown some advantages in this position.

In one case of an English primipara of thirty-eight years of age, the prominence of the advancing fœtal head pointed midway between the rectum and vulva, which was small with tense and rigid margin.

Other means not seeming to work satisfactorily, I suggested the above position, to which she strongly objected. I did not insist, but as there was no contra-indication, concluded to wait a little longer before applying forceps to lift the head over the perineum. It was not long until, at the onset of a severe pain, the patient threw herself from her side to the kneeling posture when the occiput swung forward and protruded at the outlet.

This being small and very firm and rigid, I did epesiotomy and a large child was born, with no detriment to the perineum other than that which the snips of the scissors caused, of which my patient never complained.

I would not advise this position in cases where a patient assumes the horizontal one during this stage, and progresses favorably and comfortably. But when she lies on her back and is disposed to raise herself during the later contractions to a half sitting posture, I have her assisted and supported, laying her gently down between the pains.

The utility of this measure is partly that it furnishes a point of counter pressure below that of the bony pelvis.

Where a patient prefers the lateral position, this may be furnished by the hand.

I do not consider it any advantage to introduce the fingers into the rectum, as just as much can be accomplished

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through the integument below the coccyx; and above, the fingers encroach on pelvic space just as objectionably as they would were they in the vagina, and I believe the procedure as unnecessary for perineal protection as it is repugnant and uncleanly.

The so-called manual "support" of the perineum is useful in just so far as it furnishes such counter pressure as to result in the forward revolution of the most prominently advancing fœtal part toward the proper outlet.

To sum up: The point of greatest danger to the perineal structures is higher than the margin, and incomplete revolution of the presenting part under the pubes allows the birth of the child in a line *not* coinciding with the axis of the pelvic outlet.

Remembering these two points and applying such means of precaution as a due discriminating care of each individual case suggests, I believe we shall be far more successful in avoiding this accident of labor.

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THE MANAGEMENT OF LABOR.

THOMAS J. WHITTEN, M. D., JACKSONVILLE.

The physician when called upon to attend a case of labor should respond promptly, as emergencies may arise, in which delay, of even a few minutes, might result in the loss of the life of mother or child.

When it is practicable, the physician should be engaged in advance, and if there is very marked œdema of the feet and limbs or puffiness about the eyes the urine should be tested for albumen. It is often possible by treatment to prevent puerperal convulsions. If the urine is found albuminous a teaspoonful of equal parts of potash bitart, jalap and sulphur should be given once every three hours until the bowels are very freely acted upon. This may be followed by acetate of potash and digitalis and if the patient is anaemic tr. iron may be added. Can anything be done to make "labor easy?" I have always questioned the physician's honesty who claims that he has some specific treatment that will make labor easy. I think it is a trick to catch labor cases. I must confess that I know no preparatory treatment that makes labor less painful, except that that secures for the patient the best general health. The stomach, liver and bowels, as well as the kidneys, ought to be looked after during the latter month of pregnancy and to see that they are performing their functions properly. The primary labor pains usually come on at intervals of considerable length; frequently beginning in the back and passing low down in front. Sometimes the pains are of a

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colicky character. As labor progresses the pains increase in frequency and severity. In order to determine whether the patient is in labor, a digital examination is necessary. Some advise external manipulation only, but this does not furnish all the information that the accoucheur needs. It can only give him some idea of the size and position of the fœtus. The digital examination informs the physician of the maternal parts, whether they are dry and hot, or cool and bathed with a copious mucous secretion. Whether the os is dilated or dilatable, and to what extent dilatation has taken place. It also informs him the form of pelvis, the part of child presenting and the progress that has been made. There is no better lubricant for the finger than lanoline.

The use of antiseptics in midwifery has been a fruitful topic for discussion during the past few years. Is it necessary to use antiseptics in every case of labor, regardless of surroundings? In what manner, to what extent, and what particular antiseptic agents shall we use? That antiseptics properly used have saved thousands of lives and an immense amount of suffering cannot be denied. That occasionally a patient may have been killed by their use is also undeniable. I have arrived at this conclusion in regard to the matter of antiseptics; in the majority of cases, in country practice, it is safe to dispense with antiseptics, so far as their application to the patient; but the physician should in *all cases, whether he has* been attending infectious diseases or not, thoroughly disinfect his hands before touching his patient, also his instruments if he has occasion to use them. It will only require fifteen or twenty minutes time to accomplish this. The hands and forearms may be bathed in a solution of potas permanganate, one drachm to a pint of water, for ten minutes. To remove the permanganate stain wash five to ten minutes in a solution of oxalic

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acid, one-half ounce to pint of water, and finally rinsing the hands in sterilized water.

In hospital practice I believe the most rigid antiseptic method ought to be observed, with the details of which you are all doubtless familiar. The information gained by the digital examination will be taken into consideration when the question is asked, as it generally is, "How long will the labor last?" We cannot be too guarded in our answer. If we predict a long, tedious labor, we discourage our patient; if we set a time and the labor does not terminate at or near the time indicated, the patient's confidence in her attendant is impaired, and she concludes that he does not know very much about a sick woman. No amount of erudition or experience can enable us to tell in advance, just when labor will terminate; hence, I always avoid making a direct answer to this interrogation. I tell them that labor is progressing normally and satisfactorily, and that much depends on the character of the pains and their own efforts. If the parts are relaxed and bathed with a free mucous secretion, the os thin and dilatable, the pains coming on regularly and increasing in frequency and severity, with normal pelvis and a normal fœtus and proper presentation and position, we may expect the labor to terminate within twelve to eighteen hours if a primipari, and from eight to twelve if she has had previous labors. This is a general rule to which there are many exceptions. Some women with normal pelvis and without any apparent reason, have lingering labors. While others with rigid soft parts get through with their labors in a short time. Every woman is a law to herself in confinement.

The indications for therapeutic measures during the first stage of labor, are an extremely nervous condition of the patient, a rigid os, or a feverish state of the patient. For the nervous condition, a one-half drachm dose of

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chloral hydrate, per rectum, two or three hours apart, as indicated often "acts like a charm,"

For rigid os, morphia sulphate, one-eighth grain, pulverized ipecac, one-quarter grain, every two or three hours is usually efficient. Belladonna ointment applied to os has not been satisfactory in my hands.

If there is a feverish state of the patient, tartrate of antimony and potassa in doses of one-sixteenth to one-eighteenth grain, combined with one-tenth grain morphia sulphate will be good treatment. Of course it is unnecessary to say to physicians, that any "bearing down" effort during the first stage is just so much energy wasted.

A question that has received no little discussion, with advocates strongly in its favor, and as strongly opposed, is: "What, if anything, can be safely done to aid this stage of labor by digital dilatations?" The teaching in regard to "meddlesome midwifery" has been so much emphasized that a large number of medical men think that any interference is not justifiable. The physician is not to "learn to labor and to wait," but to wait while his patient labors.

Others think they are there to do something in the way of helping their patient.

It is claimed by those who have given it a trial that digital dilatation shortens the first stage of labor by aiding the dilatation and stimulating the pains. The finger or fingers are introduced into the os and gentle traction made during the absence of a pain. Care should be exercised not to rupture the membranes. The first stage of labor ends when the dilatation of the uterus is complete.

If the pains are weak and the patient exhausted, and there is any reason to suspect an excess of the amniotic fluid the membranes should be torn with the notched finger nail or punctured with new hair pin or blunt instrument,

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taking care not to injure the mother's parts nor the child. If the labor is progressing favorably we may wait a spontaneous rupture of the sack. The duration of the second stage is as one-third to one-half the first, and is completed with the birth of the child. During this stage of labor more frequent examinations are permissible in order to observe the progress of labor. Remedies that may be indicated in this stage are: Ergot, cold applied externally, electricity, chloroform and the forceps. The injudicious use of ergot has probably destroyed many infants, causing asphyxia by the constant pressure of the firmly contracting uterus. The mother also incurs the risk of a ruptured uterus.

The following rules should govern its administration: First, Never give in the early stages of labor, or until the womb is well dilated and there is no obstruction. Second, Never give until there is sufficient progress in labor that it could be terminated, if necessary, at any time with the forceps. If ergot is prescribed when there are morbid adhesions of the placenta difficulty may be found in detaching them, owing to the firm contractions.

If the pains are slow and insufficient at this time, the application of a sheet, wrung out of cold water, over the uterus will frequently bring about vigorous contractions and speedily terminate a labor that would have dragged along for hours. Electricity has been used in this stage of labor with alleged good results. Appostoli, after using it in 500 cases, arrived at the following conclusions: First, Faradization is always safe. Second, It invariably has a calming, sedative effect. Third, It reduces convalescence by hastening involution. Fourth, Prevents all the uterine complications connected with labor.

The same precautions should be observed in administering anæsthetics in labor as in general surgery. The contra-indication would be dilatation or fatty heart, disease

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of the kidney or acute lung diseases. It ought not to be given when labor is complicated with vomiting, nor when a tendency to hemorrhage has been observed at previous labors. Patients should not be brought profoundly under the anæsthetic except for operations.

The anæsthetic should be given by one familiar with its use and who can give his entire attention to the patient, the inhalation to be suspended immediately on any appearance of heart failure, or suspension or irregularity in breathing. The agents in most frequent use are chloroform, ether, ethel bromide and nitrous oxide gas. Chloroform is the more frequently used and if properly given is probably as free from danger as any.

In this progressive age the forceps are used much more frequently than formerly. Some of the reasons are, first, a marked improvement in the instrument; second, a better knowledge of the anatomy of parts, enabling physicians to become more skillful in their application, but probably the application is made more frequently to save time than for any other reason. The last reason is not to be commended.

I believe that the forceps are being used oftener than necessary, and have no doubt but that a great deal of injury has been done both to mother and child on account of want of skill in using forceps. A prominent teacher in a medical college a few years since, said that the forceps were needed in one third the cases of labor. I do not believe this is true. On the contrary I believe that it is dangerous teaching and that if followed will add very largely to the practice of the gynecologist. I think there will be a reaction following this abuse of an invaluable aid to labor and that the cases will be selected with better judgment and less injury will be done to the maternal parts and the child. There are quite a large number of patterns to select from. The Hodge is a very popular instrument, and probably has a larger sale

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than any other. The indications for the use of the forceps are contraction of the pelvis, abnormal presentations and undue resistance of the soft parts. Some accoucheurs adopt the rule that if the presenting part becomes fixed at any point in the pelvis and makes no progress, with efficient pains for a period of one hour and a half or two hours, to apply the forceps and deliver. Dr. Goodell of Philadelphia lays great emphasis on removing the forceps as soon as the head has been brought well down upon the perineum. I have presumed to think that instead of increasing the danger of rupturing the perineum by keeping the forceps applied, there was an obvious advantage in keeping the head in the firm clasp of the forceps until it had been delivered. I believe with the forceps carefully handled, that the head can be made to hug the pubic arch more closely, and that the danger of rupture will be lessened instead of increased by allowing the forceps to remain locked until the head is delivered. Shall the perineum be supported? There are advocates, pro and con. It was a part of my teaching which I have always observed—if it does no good it has the negative virtue of doing no harm, and in a great many cases it adds very materially to the patient's comfort. I am quite sure that rupture of the perineum occurs more frequently in cases attended by midwives, and I have inferred that it was from this cause. After having seen a number of cases of extensive laceration that were unrecognized at the time of confinement, I have adopted the invariable rule of making an ocular inspection in every case, as well as applying digital examination. Occasionally we find that the skin has not been torn and still the body of the perineum has been quite destroyed. If rupture of the perineum occurs, and it will occur occasionally in the best of hands, it should be stitched up at once. If we fail to secure union which will seldom occur, the patient is in quite as good

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condition for future operation. I use silkworm gut sutures and allow them to remain in for fourteen days.

Occasionally a sudden death occurs during the progress of labor, and sometimes it is difficult to determine the cause. It is usually attributed to mental emotion, fatty degeneration of heart, heart failure, rupture of the uterus or hemorrhage.

As soon as the child is delivered and respiration thoroughly established the cord is ligated in two places, about three inches from the child's abdomen and divided with scissors between the ligatures. It has been recommended that only one ligature be used, and claimed that the hemorrhage from the maternal end of the cord diminishes the size of the after birth and thereby facilitates the third stage of labor. Dr. A. F. A. King, of Washington, is an advocate of dispensing with the ligature altogether. He chews up the cord as it were with a pair of dressing forceps and then divides with scissors. He claims that after dealing with the cord in this way that it never is followed by hemorrhage and that it dries up as the cord does in the lower animals and drops off without odor or leaving the parts sore. I have a record of one hundred and eighty cases that I treated in this way, but as there was no obvious advantage I dropped back to the double ligature. There are three principal methods in use of dealing with the afterbirth—the expectant, Crede's and the Dublin. In the expectant plan the placenta is left to the unaided efforts of nature to become detached and expelled. The delivery occurs in from half an hour to two hours.

In the Crede method circular frictions are made over the uterus immediately following delivery of the infant, with slight downward pressure and very gentle traction on the cord during the pain. The placenta is generally promptly expelled.

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The Dublin method consists in forcible pressure over uterus immediately after the birth of child. It is said to increase anteflexion. The danger to inversion or partial inversion must be borne in mind in practicing this method.

The great amount of caution that has been insisted on in regard to traction on the cord is not likely to be disregarded. After a brief rest at the completion of labor the patient's clothing and all soiled bed clothing is to be changed and the maternal parts washed perfectly clean and the binder applied. While the binder may not be indispensable if properly applied, it does no harm and often adds to the comfort of the patient. The physician ought not to leave the bedside of his patient in less than an hour after delivery and until he is assured that there is permanent uterine contractions. If there is a disposition to hemorrhage, ergot should be given in full doses, and cold applied over the uterus. If the womb fills with coagula it should be promptly emptied with a surgically clean hand and the hand allowed to remain in the uterus for a time to stimulate contractions.

Puerperal fever is generally the result of external infection. I have never seen a case that could not be reasonably referred to the lack of antiseptic precautions.

The physician before leaving the house ought to ascertain that the infant presents no anomalies that require correction, and that the mother's nipples are of sufficient length that the infant can nurse. If everything goes well there will be little if any after-treatment needed. A saline cathartic may be given twenty-four hours after the completion of the labor. If after pains are severe enough to exhaust the patient or prevent sleep, teaspoonful doses of Hayden's viburnum compound may be given in a little hot water every hour until relief is obtained or the

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one-eighth grain of sulphate of morphia with two grains of camphor. The diet ought to be nutritious.

The patient may be permitted to sit up for a short time two or three time a day after the first week and be dressed after the twelfth day.

Mammary abscess seldom occurs except following fissures. It should be the physician's care to see that fissures receive early and proper treatment and thereby spare the patient the excruciating pain that accompanies a mammary abscess. If fissures occur the nipples should be guarded with a shield; should be gently bathed off with warm boric acid solution each time after nursing and the white of egg applied. The care of the cord and dressing the infant is generally left to the nurse, but it might be well for the doctor to see that it is properly done.

The babe should be applied to the breast early and at regular intervals.

The doctor ought not to wait long for his fee.

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A FEW THOUGHTS "ON THE FASHION OF THE DAY" IN OBSTETRICS.

MARY C. KNIGHT, M. D., AURORA.

The amount of the civilization of a country is to a great degree demonstrated by the ability, care and management of the parturient state in women. No matter how savage the nation or tribe, or how crude or primitive the manner or mode of assistance rendered, some attention has been given the child-bearing woman.

However normal the labor, certain manipulations were necessary and often performed by the patient herself. The obstetrical art, more than any branch of medical science, appeals to the sympathy, and to the most sacred instincts. Even the brute creation seems to manifest a silent sympathy. The savage throws aside his weapons, trusts to incantations and mystic rites. The man of fashion stands mute and terrified in the presence of such supreme suffering and wonderful mechanism, and for the time being seems lifted out of himself, awakened, softened and purified.

All nations of the earth, whether barbaric or Christian, ignorant or cultured, in the presence of this new advent —life—instinctively feel, "The hand that made us is divine."

In ancient times, and at the present time in foreign countries, the care of the lying-in woman was entirely in the hands of midwives, who were, of course, uneducated, with no qualifications except, possibly, a natural intuition; so to that cause is ascribed the fact that for so many years no progress was made in the science of obstetrics. It was eminently the sphere of women until the era of modern scientific medi-

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cine. In 1500, Dr. Wertt, of Hamburg, in order to attend and study a case of labor, put on the dress of a woman, and was burned alive for his audacity. The man midwife was looked upon with great disfavor, by the laity, as well as the profession. This fact may seem somewhat humiliating to women in the profession, when you take into consideration that years of study and enlightenment in many ways have made no improvements upon the crude manners and savage instincts of our sisters of the East.

Physicians were called upon only when surgical interference was necessary, and at that time embryotomy was considered the essential and only course to pursue. After the sixteenth century the first obstetrical instruments made their appearance, and these were for the use of the physician in destroying the child.

After this period great changes came about. First, podalic version, and the commencing of anatomical study. The second makes known to the world the discovery of the obstetrical forceps and the inauguration of obstetrical teachings and obstetrical publications. The third, which includes the last half of the eighteenth century, is marked by the perfection of the forceps, the addition of the pelvic curve, and the induction of premature labor for the purpose of supplanting embryotomy. The first impulse to the development of obstetrical art was given in France, and this country continued for a long time the center of its progress. The position which midwifery took in the medical sciences is well characterized by the fact that its greatest teacher, Peré, was a surgeon; the most important operation, Cæsarean section, was performed by barbers; and one of the ablest practitioners, Louise Bourgeois, was a woman, a midwife of high standing, the work in which she published her observations being one of the most popular text books. Also, in Germany, a century later, the most

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advanced teachings were represented by the publications of Justina Sigmundin, midwife to the Court of Brandenburg.

Obstetrical art has attained a most wonderful development in the last decade. This branch of medical science being taken from the bonds of surgery, that so long hampered it, and having obtained full recognition as a distinct branch of medicine, it has kept pace with the great advancement of the medical world of the nineteenth century. The prevailing question of the day seems to be how to terminate labor without pain. When you are called to a case of labor, the first questions asked are not, can you perform Cæsarean section? Do you believe in asepsis, or antisepsis? Do you use the axis-traction forceps of the French, or Tarniers forceps? But, *do you use chloroform?* Of course you give chloroform; every one gives chloroform; and then your trouble commences—at least mine does. Many patients clamor for it when they feel the first three or four dilating pains of the *os uteri.* You cannot give it then of course. The cry for it goes on, and on, for about five hours; finally when dilatation is complete, you are willing they should have a little, but at that period they are getting really interested in the case themselves and don't care whether they have it or not, but certainly it deadens very much the last terribly hard pains, but it often makes them delirious and hard to manage, and I find it difficult to tell when to commence and how much to give.

I have in mind two similar cases—both terminated fatally—I did not give chloroform in either case. The first one, a primipara, in labor about twelve hours; presentation normal, nothing unusual or particularly slow in any stage until the second, then the advancement was slow, and the head did not recede a particle, but kept its position after the cessation of one pain until the commencement of the next, and from every expulsive effort it proceeded a little farther,

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until complete delivery. The cord was around the neck of the child, which was perfectly cyanotic, after half an hour of vigorous hard labor it was resuscitated, but was never able to nurse, and kept up a low moan for four days and finally ceased to breathe.

In the other case the labor was much shorter, lasting about three hours, and the child was born dead. The mother was in a very low grade of health. Both of the children were perfectly formed and well nourished and not very large. Had I given chloroform, should have thought that the cause of death, but as I did not, I am at a loss to account for it. Could it have been caused by the prolonged and continuous pressure on the head during delivery? At any rate should I have such another case would it not be advisable to use forceps at once? In the management of the third stage of labor, immediately on delivery of the child, I place my hand over the now contracted uterus, or have it firmly held by an assistant, with instructions to keep up a gradual pressure and kneading of the hard ball felt under the hand, and the placenta is delivered by expression rather than traction on the cord. By so doing I have never had any trouble or ever been obliged to introduce my hand into the uterus, and I think the assistance aids contraction, and prevents the severity of the after pains.

When there is no laceration of the perinæum I do not think it necessary to use douches. Often in private practice there are no conveniences, and unless very carefully given there is some danger of forcing water into the uterus, thus causing a great deal of anxiety to the physician as well as suffering to the patient, but if desired and carefully given, I should not refuse to allow a patient to have as many as she desires.

Some eminent German writers of the day affirm that the ligation of the cord is not an essential. In this opinion

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some of our own prominent obstetricians coincide. Is it an essential, or an obsolete custom that the enlightenment of the present should consign to the relics of the past?

How to relieve women of the great suffering incident to the child-bearing period has caused a great deal of study and earnest desire on the part of the profession as well as those out of it. Jenness Miller tells us "what to wear and how to wear it." The followers of the tokology seem to think they have derived great benefits from its teachings. Mrs. Cady Stanton affirms that by proper dress, manner of living, and sufficient exercise, she has done away with the curse pronounced so many years ago "in sorrow shall you bring forth children." It is an old old curse dating back a great many centuries, and modern science has made wonderful, seemingly impossible strides, but even at this late day men do not "gather grapes of thorns or figs of thistles," a fixed law of philosophy people have learned to accept. Would it not be as well to admit this ancient decree as beyond human power to remedy?

DISCUSSION.

Dr. Abby Fox Rooney, Quincy:

I would like to say a word or two with reference to Dr. Knight's paper. She spoke of two cases of very rapid delivery. I understood her to say that one was completed in three hours. That certainly was a rapid delivery and she queried why the case was fatal. I would say it was because she did not give an anæsthetic. If labor went on in so rapid a manner as described, had an anæsthetic been given, probably the patient would have quieted down and had a normal labor, and things would have gone on in a favorable way. I have had one or two cases in which by giving ether in the first stage of labor, in half an hour the patient was quieted down, so that the labor took on a natural aspect and I

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had no further trouble. I want also to say that common sense seems to be an important thing for us all to learn, especially surgeons and obstetricians. Women midwives, many uneducated ones, have had charge of labor for a great many years. A great many children have been born and a great many live. I have noticed in the cases that have come to me in office practice which have been attended by midwives that there were very few in which there was rupture of the perineum. All complete ruptures have been made by doctors so far as my experience goes. I do not know why it is unless doctors are meddlesome midwives. They are often in too much of a hurry. They want to do too much. They are not as well acquainted with women as they ought to be. They should be introduced to their patients. A patient under such circumstances wants to feel that you are the best friend she has. When she calls you at such a time you should be her best friend. If there is nothing essential to be done, you must not suggest anything. If you tell her everything is all right you can go about your business. It will encourage her. You should go away, and not stay about the house. Most patients can not stand it, and if you do not have any other patients to attend to, take a ride. Time yourself and then return. The chances are that if you wait awhile she will get along nicely and you will probably have to stay only about half an hour when labor will successfully terminate. Constipation is the besetting sin of women. When a woman complains of an aching distress in the pelvis, do not suppose that ovariotomy is necessary. Probably the bowels are full. If every day the patient be instructed to have the bowels thoroughly emptied, the chances are that ovariotomy will not be called for, and Dr. Etheridge won't get a chance to operate. A good many cases would escape the specialist if family physicians taught them that they must have their bowels emptied every day in order to take the pressure off of any sensitive part of the body.

DR. KATHARINE MILLER, LINCOLN:

Just a word with regard to laceration of the perineum. I have seen cases in my own experience where I was confident the head had passed safely and laceration occurred during the deliv-

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ery of the shoulders and body of the child. I am confident I have sometimes avoided laceration since I introduced the feature of guarding the perineum from extreme retraction after the passage of the head. There is often an interval of some minutes between the passage of the head and the passage of the shoulders. There is time for the perineum to retract firmly against the child's neck, and where that happens the expulsive pain is liable to force the point of the shoulders though the perineum so as to lacerate it. I have avoided this by introducing the fingers of my hand against the perineum under the point of the shoulder and retaining it there with the head resting on the hand and forearm until my hand with the shoulders slipped over the perineum. One point in the management of labor has not been mentioned. I presume a great many of you use it, that is the application of a bandage during labor. We oftentimes find women complaining that labor is rather tedious and they suffer from soreness and tension through the abdominal muscles. There is nothing I have found which gives such great relief in such cases as the application of a binder, which is tightened up from time to time as labor progresses and the child descends, giving firm pressure over the abdomen. It certainly relieves a certain amount of tension and oftentimes the discomfort of the woman is greatly lessened. I think you will find this to be the case more particularly in women whose abdominal muscles are not well developed, not muscular women; consequently they feel the need of this pressure, and they appreciate the relief that is given by the application of a binder.

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DISLOCATION OF THE CRYSTALINE LENS.

WILLIAM H. WILDER, M. D., CHICAGO.*

Dislocation of the lens, although not of very frequent occurrence, happens often enough as a result of traumatism or of congenital malformation to make it a subject of interest to the general practitioner as well as to the specialist.

Becker, who tabulated the eye cases of his own clinic in Heidelberg as well as those of some of the largest clinics of Europe for several years, found that these accidents comprised about 0.14 per cent of all, while in his own there was a percentage of 0.19 and in Knapp's 0.36. (*Graefe (u.) Saemisch Handbuch der Augenheilkunde.*) Dislocations of the lens may be classified with regard to their etiology as congenital, spontaneous and traumatic, while from a clinical standpoint we make the distinction of incomplete and complete.

If we consider the anatomy of this part, we shall remember that the lens is suspended behind the pupil resting in a depression of the vitreous, with the pupillary margin of the iris touching its anterior surface. It is held in place by the zonule of Zinn or suspensory ligament, which is a delicate structure composed of bundles of fibrous tissue adherent to the ciliary processes, and attaching itself *anteriorly and posteriorly* to the capsule of the edge of the lens, around its whole circumference. If the suspensory ligament be properly developed, the centre of the lens will be behind the centre of the cornea, and its edge being hidden behind

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the iris will not be visible even after complete dilatation of the pupil.

But in case of a malformation of the suspensory ligament, one side being developed more than the other, the lens assumes a false position, a condition known as ectopia, or congenital displacement of the lens.

This is usually incomplete and symmetrical, but cases of complete congenital displacement, both monolateral and bilateral, are on record.

The diagnosis is usually readily made. With oblique illumination the edge of the lens will be seen as a silvery white curved line, and the lens itself will appear grayish against the black pupil; while with the ophthalmoscope, this will be changed to a dark line as seen against the red background of the fundus. The iris may or may not be tremulous according to the amount of support it has from the lens. If the lens be so placed that the edge of it is about at the middle of the pupil, the patient may see double images with that eye because of the prismatic effect, and for the same reason the observer may see two images of the optic disc.

The vision is necessarily impaired, and myopia is the usual refractive condition, owing to the bulging forward of the lens. The anterior chamber is usually of unequal depth because of the different pressure upon parts of the iris.

According to D'Oench, (Archives of Ophth. Vol. X, p. 89,) the lens remains clear in seventy-five per cent. of these cases, and the same author avers that the direction of the displacement is most frequently upward, then upward and inward and upward and outward, a point of differentiation from a spontaneous or traumatic lesion where the direction of dislocation is usually downward.

Becker attributes ectopia to irregular development of the suspensory ligament and (*Græfe Saemisch Handbuch*) heredity is supposed to play a rolê in its production. Mor-

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ton (Ophthalmic Hospital Reports, Vol. IX, 3, p. 435) has traced several cases through five generations.

As to the so-called *spontaneous* luxations in which there is no evidence of injury nor any apparent cause for the accident, the probability is that in many of them a congenital displacement of the lens or an imperfectly developed zonule of Zinn existed before, and that some unexpected movement or strain put a greater tension upon the suspensory ligament, and caused it to give way. Sichel maintained (*Oppenheims Zeitschrift fur die Gesammte Medicin*, 1846) that this form of dislocation was never due to congenital defect, but was occasioned by diseased processes in the eye, a view that is not held by more recent observers.

The diseased conditions that may cause spontaneous dislocation of the lens are: fluid vitreous, choroiditis, iridocyclitis, malignant myopia, detached retina, intra-ocular tumors and any condition that tends to produce staphyloma or bulging of the eyeball at any point. Just why liquefaction of the vitreous should favor spontaneous dislocation is not positively known, but the probable reason is that pointed out by Julius Arnold, that the zonule of Zinn being a structure nearly related to and probably formed from the vitreous humor, participates in the degenerative change that takes place in the latter. Spontaneous luxation may occur to a cataractous as well as to a transparent lens, but when it is the former it is usually an old senile cataractous lens the capsule of which has undergone degeneration.

When fluidity of the vitreous exists with this condition, the operator may be embarrassed by it when he attempts to remove the lens.

Traumatic dislocation of the lens always occurs because of a rupture of the zonule of Zinn, which, according to the severity of the injury may be slight or extensive, giving rise to partial or complete luxation.

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If the rupture be slight, the lens may remain in position, but sooner or later in the majority of cases, the rent in the suspensory ligament enlarges, and the lens either drops from the lenticular fossa or turns so as to present its edge to the pupil. When the latter happens, the iris is pushed forward on one side, and the ant. chamber is deeper on the other. The iris will also be tremulous because of its lack of support.

As in the congenital form, the edge of the lens may be seen by oblique illumination as a grayish band running across the pupil, while with the ophthalmoscope it appears as a dark line. This appearance is always indicative of a dislocation. The patient himself may notice this as a black stripe extending across his field of vision, and if the edge of the lens presents in the area of a pupil of the natural size, diplopia will be the consequence.

The principal significance of this accident is that in all cases a disturbance of the vision exists whether the luxation be partial or complete. If the lens has dropped into the vitreous or has been forced out of the eye, a condition known as aphakia exists, and extreme hypermetropia is the result; but in those case where the displacement is not total the interesting feature of myopia presents itself.

The tension of the suspensory ligament being relieved by its partial or complete rupture allows the lens, because of its natural elasticity, to bulge forward and thus to increase its convexity.

Its refractive power is correspondingly increased so that rays of light that were formerly focussed on the retina are brought together at a point in front of it as in myopia.

The degree of myopia may be extreme, as in a case reported by Holmes Spicer (Transactions Ophth. Society United Kingdom, Vol. X, p. 194) of double congenital dislocation, which showed a myopia of 25 D. in the right eye

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and 18 D. in the left, from which he inferred that the lens had retained its early globular shape, while the rest of the eye had developed normally.

A case of Theobald's (Transac. Amer. Ophth. Soc., 1881) is still more remarkable, in which the dislocation of the lens was complete, although it was still attached by the ligament below. With his head erect, the patient could read only the largest type, but when he bent forward the lens, which was in the vitreous, dropped into its normal place, giving him good vision, so that he could read J. 1 at one and one-fourth inches, which corresponds to about 30 D. of myopia.

Hypermetropia or hypermetropic astigmatism exists in that class of cases in which the lens is only partially dislocated or tilted, and where, either because of the blow or of the dragging upon the ligament that the lens exerts, there has been an inflammation of the ciliary body and the consequent formation of fibrous bands of adhesion that, by their natural contraction, exert a greater tension upon the lens than do the normal fibres of the suspensory ligament, thus diminishing its convexity and refractive power.

Another important fact is that the lens becomes either partially or completely opaque, whether the capsule has been torn by the force of the injury or not. It is difficult to understand why this cataractous condition should occur when the capsule is uninjured. Becker advocates the theory that the lens as it sways to and fro with the motions of the head and eyeball is thrown against the iris, and drags on the remaining untorn fibres of the ligament, thereby injuring the capsule. This would also account for the iritis, cyclitis, etc., that sometimes arise. The suggestion of Berger that the zonule of Zinn stands in some relation to the nourishment of the lens because of the development of cataract years after a dislocation, is a probable explana-

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tion of the fact. (*Beitrage zur Anatomie Zonula Zinnii Graefe Archiv für Ophthalmol.*, Vol. 28.) Green reports a case of ruptured Zonule of Zinn in which the lens remained transparent after three years. (*Amer. Journal Ophthalmology*, May, 1884, p. 183.

The force that produces such an injury usually acts directly upon the eyeball, but this is not necessarily the case, for a severe blow on the head or upon the parts around the orbit may cause such a violent shock to the eye as to rupture the suspensory ligament, and even other structures such as the choroid and retina; while in certain cases, the sclerotic may be rent by the blow and the lens may escape and lie under the conjunctiva.

The points of diagnosis have already been referred to. The presence of a peculiar crescentic line of a silvery hue, running across the pupil, changing to a black line on ophthalmoscopic examination, is indicative of a partial dislocation, which, if it is upward or outward and is present in both eyes, is probably congenital.

If the dislocation be complete, the lens may be seen wedged in the pupil or lying in the ant. chamber, while if it be pushed back into the vitreous, it may be invisible or may be seen as an opaque whitish object, or if the edge presents only a dark line will be noticed on ophthalmoscopic examination.

The absence of the lens from its normal position will be determined by the tremulousness of the iris, the absence of the reflected image from the lens, the abnormal depth of the ant. chamber and the total absence of accommodation. The patient cannot see to read, and even if the refractive error be corrected, he can make no accomodative effort.

Prognosis.—The prognosis is not of the best. Many of the partial luxations become complete, and the supervention of glaucomatous symptoms from a tilted or obliquely placed

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lens pressing the iris forward may at any time demand operative treatment.

If the lens has fallen into the anterior chamber and presses against the cornea there may be ulceration of that structure.

Iritis, irido-cyclitis and detachment of the retina may follow.

In partial dislocation from traumatism if the iris is not tremulous and the lens seems to be fixed in its new position, there may be some hope that the trouble may stop there. This seems to indicate that a circumscribed inflammation has bound the lens at a certain point, an illustration of which will be given in the report of the case to be read.

Treatment.—If the dislocated lens be transparent and still in the area of the pupil, the vision may be improved with appropriate glasses; and if the lens be opaque and only partially dislocated, an iridectomy as in zonular cataract may give the patient improved vision.

When the lens is completely dislocated, extraction is usually demanded. Cicardi describes two cases in which he succeeded in restoring the lens to its normal position with the aid of eserine, compressed bandage and rest. At the first examination of both patients he found a myopia of 5 D., which finally disappeared almost entirely, while V rose to $\frac{20}{40}$ and $\frac{20}{20}$ respectively. (*Annali di ottalm.*, Vol. XVIII and *Knapp's Archives*, April, 1891.

That a rent in the suspensory ligament may heal, and that a reasonable degree of safety as to subsequent dislocation may be expected in such cases, is illustrated by a case reported by Randall (Trans. Amer. Ophth. Soc., 1886) in which there was a traumatic partial luxation, the inner and upper margin of the lens being visible. Eye myopic —5 D. and astigmatic, axis vertical. The astigmatism gradually became less and on recovery there was Hy. astig. with V

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$=\frac{6}{15}$. J. 1 was read with +3 D. at from 12 to 30 cm., showing an unexpected recovery of 5 D. of accommodation.

In connection with this subject, I should like to report a case of considerable interest that came under my observation at the Chicago Policlinic.

Henry E., æt. 36, received a blow on the left eye five years ago from a piece of harness. This was followed by pain and redness of the eyeball and some swelling of the surrounding parts, with dimness of sight. These symptoms disappeared at the end of a week, and then the patient noticed that there was an irregularity of the margin of the pupil, a cleft downward. So far as he knows there was no hemorrhage into the anterior chamber. One year from the time of the accident he experienced severe pain in the eyeball which lasted several hours. He has had similar attacks since, noticeably in the last eighteen months, lasting about half an hour, associated with neuralgic pain of the left cheek, and recurring at intervals of a few weeks.

It was after such an attack that he appeared at the clinic, when the following condition was noted:

Right eye normal, left eye somewhat more prominent than the right. Pupil irregularly enlarged, rather pear-shaped, because of the lower part of the iris being atrophied and apparently held down by adhesions. Iris not tremulous. The lower edge of the lens could be distinctly seen when the patient looked downward, and there was a faint opacity of it not reaching to the center. The lens was evidently tilted on its vertical axis, although the upper edge which was the most anterior part did not press the iris forward.

Field of vision not contracted, fundus normal, no evidence of choroiditis or myopia. Tension normal and the same at several subsequent examinations.

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VR=$\frac{6}{6}$; + 0.5=$\frac{6}{6}$
VL=$\frac{6}{24}$; Cyl. +1.75 ax. hor. =$\frac{6}{6}$
Reads J. 1 at 22 and 27cm with L.

Examinations of the cornea with Javal's ophthalmometer failed to reveal corneal astigmatism of any amount, certainly not over 0.25 D.

On examination with the pupil widely dilated with homatropine, the lower margin of the lens is brought more distinctly into view, and apparently about 1 m. m. below and separated from it by a clear narrow space through which the red reflex appears, is seen an irregular pigmented line about 5 m. m. long running about parallel to the border of the lens. This suggested a rupture of the suspensory ligament at this point, followed by a localized inflammatory process involving the iris and ciliary body. This view seems to be strengthened by the tilting of the lens, which is apparently drawn backward from below, thus giving rise to the unusual form of astigmatism.

DISCUSSION.

DR. A. C. CORR, CARLINVILLE:

In entering into a discussion of dislocation of the crystalline lens it would seem so intimately related to the violence that produces the dislocation that it would resolve itself into a discussion of the treatment of the traumatically injured eye; yet from the fact that dislocated lenses do come under observation where the cause is unknown, as far as any physical signs of violence are concerned, we have to consider the subject somewhat more abstractly.

When a lens is congenitally situated in an abnormal position and is adherent, it is known as a case of ectopia lentis.

When displaced by violence from the normal depression in the vitreous the lens is said to be luxated. When the lens is

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displaced, but slightly and still attached to the zonula, it is said to be *subluxated* or *tilted*.

In all these conditions the lens may be partially or wholly movable, constituting a floating or tilting lens, and if retaining its capsule entire may be and remain transparent for a long time. It may become calcareous.

If the lens is dislocated with the capsule entire and in the posterior chamber, it may remain transparent for years, cause monocular diplopia, and cause a dark curved line across the pupil similar to a drop of water between two pieces of glass.

One such case came to me for advice. Both lenses were so dislocated and without known cause, and had been for a year or more. Both lenses were transparent, capsule entire of course. The curved line across the pupils was very marked, and diplopia complained of alike in both eyes. The patient was an adult, German lady, aged twenty-six or twenty-eight years, the mother of three or four children. The lenses were movable alike in both eyes.

If the lens is dislocated into the vitreous, aphakia occurs as in cataract extraction or reclination, and if the media are clear enough the lens may be located with the ophthalmoscope.

If the lens is dislocated through a laceration of the sclera beneath the conjunctiva, its position and nature may be determined by the tumor and the history of the case, together with the presence of aphakia.

The question of removing a lens when dislocated under the conjunctiva may involve a question as to whether you should convert a simple laceration of the sclera into a compound wound by giving it an external opening before the sclera has healed. However, usually it should be removed at once.

The absence of the lens from its normal position, when not easily otherwise determined, may be more definitely settled by the *catoptric test*.

If the capsule is ruptured or lacerated by the violence that causes the luxation the lens soon becomes opaque, and will usually disintegrate. I have seen two such cases from hedge-thorn prick. The lens debris was evacuated.

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Dislocation may be caused by diseased conditions of the eye, where the vitreous has become liquefied. The suspensory ligament becomes stretched, atrophied or detached. Extreme myopia favors the result.

Partial dislocation may be produced by synechia, and by anterior scleral staphyloma.

The suspensory ligaments of the lens become weakened and fragile in old persons, so that in such, a very moderate blow on the eye may cause a partial or complete luxation.

A transparent lens dislocated into the anterior chamber resembles a drop of thick oil on a piece of glass, and usually should be removed at once.

Astigmatism consequent on partial luxation of the lens may be corrected by suitable lenses.

Temporary myopia may occur as a result of a blow on the eye, causing change in curvature of the lens. (Nettleship.) I suspect by causing temporary paralysis of the ciliary muscle in a hypermetropic eye, which paralysis with mydriasis is recognized as a result of a blow on the eye. These errors of refraction so produced may be corrected by suitable lenses.

Tremulousness and unevenness of iris would, with a corresponding history indicate subluxation and lens in posterior chamber. If the anterior chamber be deepened, with other corresponding history, it would indicate dislocation into the vitreous.

If glaucomatous symptoms arise in case of complete dislocation of the lens, an iridectomy should be made and, if practicable, the lens should be removed.

The point of sclerectomy, in case a glaucoma complicates a luxation into the vitreous, may be determined by the whereabouts of the lens.

Dislocation of the lens alone, or laceration of the capsule with or without dislocation or fracture of the lens, has been observed as a result of the shock in death by hanging.

Surgical procedure in cases of traumatic luxation of the lens will vary somewhat along the line of heroism and conservatism in surgery. In simple luxations, if the eye is found quiet, the

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expectant and conservative course would better be pursued—quietude and such other measures as tend to prevent undue inflammation. In complicated or compound luxation seen at once it may be best to remove the lens; yet even in some cases of these varieties it may be better to await results. In glaucomatous complications an iridectomy would better be made and the removal of the lens if practicable.

The injunction, "never disturb a quiet-biting dog" applies very well in traumatic injuries of the eye.

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THE DIAGNOSIS AND TREATMENT OF SOME OF THE DISEASES OF THE EYE IN INFANTS AND CHILDREN.

ALBYN L. ADAMS, M. D., JACKSONVILLE.

The importance of making an early diagnosis and appropriate treatment in most eye diseases of infants and children, no one will question, if we consider the statistics of the blind in our own state institution for their instruction and the more complete statistics from the European institutions for the same purpose. In his treatise on "Blindness Among Youth," Magnus confines himself to those below twenty years of age, and analyzes the statistics of sixty-four European institutions. He gathers 3,204 cases of incurable blindness in both eyes, and sub-divides them into five classes: 1st, congenital blindness (551), .17 per cent.; 2d, from idiopathic eye diseases (1,060), :33 per cent.; 3d, from injuries (261), .08 per cent.; 4th, from constitutional diseases (1,063), .33 per cent.; 5th, unknown causes (269), .8 per cent. Among these cases of congenital blindness cataract has a high percentage in frequency. In many of the cases the eye is otherwise defective, brought on, it is supposed, by arrest of development, or disease during intra-uterine life. It frequently accompanies a defective mental condition. One or both eyes may be affected, and a part or all of the lense be opaque. The pupil often dilates imperfectly, even with atropia. The lense is often small and soft, but may be very white and calcareous. Nystagmus frequently accompanies this disease. There may be a

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poor perception of light from opacities of the vitreous. In these cases it is needless to say that the removal of the cataract is not productive of good vision; hence the prognosis should be guarded in the only plan of treatment, viz., operation. In blindness from idiopathic eye diseases, ophthalmia neonatorum has the highest percentage of cases—23 per cent.—according to the record of Magnus.

This disease is the result of infection during or immediately after birth, and can be very largely prevented by proper management at the proper time. Four varieties of contagious ophthalmia may be recognized, which are in the order of their pathological importance: diphtheritic, gonorrhœal, purulent, and catarrhal, the last three when they attack a new-born child being grouped together under the generic title of opthalmia neonatorum.

It presents itself usually at the third day, sometimes not until the eighth, under various degrees of intensity. There is a swelling of the lids, with a yellow thick secretion issuing from the eyes, or if dried upon the tarsal edges it glues the lids to each other. If seen early the conjunctiva, both ocular and palpebral, is reddened and swollen, the secretion comparatively thin, but soon the latter becomes thick and creamy. There may now be a chemosis of the conjunctiva, and the palpebral portion may become intensely reddened and spongy. The cornea may remain clear, but its integrity is the object of anxiety. A first sign of its invasion may be a diffused haziness or a single point of infiltration, or ulceration at any part of its circumference. Just preceding, or at the time of a perforation, the secretion is apt to be thick, copious and creamy, and the pain and irritation mitigated as shown by the child's nursing better and being less restless. Temporarily it thus affords relief, but also brings about permanent damage to sight. Restlessness, fever, or synovitis of knee or wrist joints may de-

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velope, of the same character as similar complications during a gonorrhœa in the adult.

The treatment can be divided into curative and preventive. First, If seen at the very beginning when slight swelling of the lids and a watery secretion is present, cold applications and careful and frequent cleansing with an antiseptic wash is to be used. The cold applications consist in laying linen or antiseptic gauze compresses of small size on a block of ice and transferring them at short intervals to the eyelids; these intervals and the degree of cold to be regulated by the temperature of the lids; this and the cleansing to be kept up at short intervals day and night. As the swelling grows less and the secretion more thick and creamy, the lids should be turned and a two per cent. or ten grains to the ounce solution of silver nitrate applied to them with a camel-hair pencil, care being used to prevent its contact with the cornea; both upper and lower lids to be similarly treated. The degree of effect can be regulated by the quantity of the solution applied and the interval before the excess is washed away with a mild solution of salt water or carbolic acid. It is to be remembered that the first application is to be carefully watched, to ascertain its effect on the cornea, and on the character and amount of secretion. If after twenty-four hours the swelling is less and the secretion not so copious, the desired result is obtained, and another application is to be made in twenty-four hours—from the first or when the secretion becomes more abundant. If this application is made too often, the irritation is naturally increased; if not often enough the disease will gain fresh strength each time and the efficacy of the treatment be diminished. The cornea is to be carefully inspected once or twice a day, which would be difficult without the use of lid elevators. These may be improved by bending over the rounded ends of hair pins. The inspection of the cornea

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should be done with the greatest care, for fear of causing a perforation at some weakened portion. Should it be found to have become invaded, that should make no difference with the caustic treatment. Iritis is very apt to occur, especially if there is corneal ulceration, hence atropia has an important use in all corneal complications. Almost always both eyes are involved, one being earlier and more decidedly affected than its fellow. When one eye is seemingly unaffected the indications are, first, to kill any germs that may possibly have gotten into the apparently well eye and have not had time to develop; second, to prevent infection from the diseased eye. The first indication is met by cleansing the skin and lids of the unaffected eye and applying a two per cent. solution of silver nitrate, rubbing well into the roots of the eye lashes and skin about the inner canthus, then dropping one drop of the same into each cul de sac. The second indication is met by hermetically sealing the closed eye with a pad of cotton extending from the nose to the forehead, the outer edge being sealed with collodion, this eye to be inspected once or twice a day. Dr. Noyes of New York says, however, that the need of handling the eye to change the dressings involves more exposure than to warn the patient and the attendants of the utmost caution, and to insist on the patient sleeping on his back or on the side of the affected eye.

The preventive treatment suggested by Dr. Mules in his prize essay on this subject is:

The cure, if possible, of all cases of chronic vaginal discharge before labor.

Irrigation of the vagina during the second stage of labor, where vaginitis is known to exist.

By assisting the fœtal eye to pass beyond the perineal edge without resting.

By wiping the eyes with a clean cloth at birth of the head.

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By instilling an antiseptic solution into the child's eyes at birth, if the mother is known to have had vaginal discharge just previously.

Never wash the face in the water in which the body has been cleansed.

To retain one sponge or flannel for the child's face and insist on scrupulous cleanliness.

The nurse to wash her hands after attending the mother before touching the child.

To protect the child from flies by a veil.

To remove the child from the immediate vicinity of another similarly affected.

To print and diffuse through every family such aphorisms as are advisable and easily understood.

To specially instruct all nurses in the rules and point out to all medical practitioners the necessity of carrying out these rules in their entirety.

Diseases of the conjunctiva and cornea, of eye diseases, are met with, perhaps, most frequently, in practice.

The inspection of an eye to determine the presence of a foreign body is of great importance and often difficult from the irritation present. This is greatly simplified by the use of a solution of cocoaine eight to sixteen grains—one ounce. It is well to make no pressure on the sensitive globe, thus causing spasm of the lids, but rest the fingers firmly on the bony orbit. In this way it is an easy matter in most cases to evert the lids.

A condensing lens, by which artificial light is focused, assists materially in finding the foreign body, and as a rule it is easily removed.

It is often very difficult to even approach young children with painful eyes. In these a few inhalations of chloroform dulls the extreme sensibility and allows a thorough examination to be accomplished and a diagnosis made more cer-

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tainly and easily. In conjunctivitis there is greater or less injection of the conjunctival vessels. The quality of this conjection is of far more importance than the quantity. Long, tortuous vessels are seen over the white of the eye in conjunctivitis, while in inflammation of cornea or iris, the vessels are short and straight, surrounding the corneal margin. Muco-purulent or purulent secretions are only found with conjunctival inflammations. When the lids are stuck together in the morning upon first arising it is indicative of conjunctivitis. Photophobia may be absent or present in considerable degree. It is most marked in those forms associated with measles, or where small ulcers exist on the cornea. While the sensation in most cases is that of grit or sand in the eyes, or a smarting, in some it appears to cause acute suffering, which is aggravated by touching the lids.

However, we usually consider a genuine, severe or continuous pain in eyeball, forehead or temple to be due to iritis, neuralgia of the fifth, or glaucoma.

For the treatment of a conjunctivitis, we search out the cause and try to remove it. Have the patient removed from the influence of dust, smoke and cold winds. Examine the lids closely for foreign bodies or misplaced cilia, or concretions in the ducts of the meibomian glands near the margin of the lid. At first a boric acid wash—10 grains to the ounce of water—is very cooling, or carbolic acid and glycerine in equal parts, using a teaspoonful to a pint of water. In more severe cases with considerable secretion a good collyrium is bichloride of mercury—three-quarters of a grain to water a pint, or one-ten-thousandth; at the outset a laxative followed by quinine, and proper hygienic measures, fresh air and strict cleanliness. Phlyctenular conjunctivitis, or phlyctenular ophthalmia, is a form of inflammation of the conjuctiva in which one or more grayish elevations

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are noticed situated near the edge of the cornea as a rule. It is seen most frequently in poorly nourished children and in strumous subjects. It often follows attacks of measles or other exanthemata and is most common in moist warm weather. It often occurs in those suffering from rhinitis. It may be single or multiple in form, and the pimples or phlyctenulæ vary in size from a poppy seed to a millet seed. They are accompanied by congestion, lachrymation, and photophobia, and may be associated with a muco-purulent ophthalmia. The pustule, where there is but one, is very apt to break down and form an ulcer. If this is near the edge of the cornea there is a tendency to perforation. For treatment, mild antiseptic washes, as boric acid, with instillations of atropia, $\frac{1}{2}$ per cent. to 1 per cent., where there is much photophobia, and smoked glasses to protect from strong light. The use of cocaine is to be deprecated, especially when ulceration exists, because of its drying effect on the cornea and its tendency to increase the irritation.

Fresh air, wholesome food, cod liver oil, iron, quinine and arsenic, may be important aids to the local treatment. The nasal fossæ are to be kept cleansed by the use of Dobell's solution, and may be treated by insufflations of camphor, boric acid and bismuth sub-nitrate in equal parts, if rhinitis be present.

Phlyctenular keratitis closely resembles the preceding disease, the phlyctenulæ or elevations appearing on the cornea and furnishing most of the cases of ulceration of the cornea, not the result of injury or malnutrition. The treatment is the same in substance as in phlyctenular-conjunctivitis. Corneal ulcers are spoken of as simple, purulent, indolent excavated or gouged out, infecting or sloughing. These have several symptoms in common; congestion, photophobia, lachrymation, pain in the eyeball or brow. The treatment can not be laid down in

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a routine manner, each case must be treated from a study of its peculiarities, and often tests the greatest skill and best judgment of the attendant physician. In a general way simple cases can be treated with mild antiseptic washes, atropia, dusting in the powdered iodoform or making the application directly to the ulcer by means of a platinum probe and by protection from bright light. In the more chronic forms local stimulation can be accomplished by the use of yellow oxide of mercury ointment, 4 grains to 16 grains to the ounce. Constitutional treatment with attention to hygiene and diet, is of great importance; coffee, candy, tea and pastries are to be forbidden; cod liver oil and iron, quinine and arsenic for malarial influences, the iodides and mercury and hot air baths for hereditary syphilis. Careful inspection of the naso-pharynx, lachrymal apparatus and conjunctiva is called for, and carious teeth should receive attention, for they seriously interfere with digestion and nutrition. Iritis is one of the most important diseases of the eye, because of its position as a factor in the cause of blindness, also because of the large percentage in which it will yield to treatment. During its first stage it is often very insidious, not being noticed by the patient until the vision is disturbed. Soon, however, the pupil is contracted and has a hazy appearance, the iris is sluggish or immovable and lacks its usual luster. There is the characteristic injection surrounding the cornea, the formation of inflammatory attachments between the iris and the capsule of the lense, thus causing an irregular dilatation under the use of a mydriatic. There are irregularities on the surface of the iris at times, a haziness of the cornea, and a change in the character of the aqueous. The pain is situated at first in the eyeball, later in the brow or temple; is lancinating, boring or throbbing, and is usually worse at night. The vision is disturbed in proportion to the amount of turbidity of the

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media. Photophobia and lachrymation are present in all degrees of severity. The most important symptom of iritis is the adhesion of the pupillary margin of the iris with the capsule of the sense, this is easily made out by focal illumination, and made very plain by the use of a mydriatic.

On account of the not uncommon error of mistaking an iritis for some external inflammation of the eye, and thereby losing most valuable time in the treatment, I here insert a table of differential diagnosis as arranged by Dr. Schweinitz.

DIFFERENTIAL DIAGNOSIS.

IRITIS.	Simple Conjunctivitis.	Phlyctenular Conjunctivitis.
1. Severe brow pain.....	Feeling foreign body in eye.....	Acute general irritation.
2. Dim vision.....	Vision usually unimpaired, unless secretion is very abundant.....	Vision impaired by corneal involvement.
3. Fine pericorneal injection.....	Coarse conjunctival injection.....	Diffuse injection with special lines of vessels running to phlyctenulæ.
4. Absence of secretion. Some abnormal lachrymation.....	Muco purulent discharge, flakes of lymph.	Free lachrymation.
5. Sluggish or immovable pupil.....	Pupil unaffected.....	Pupil usually unaffected.
6. Iris discolored.....	Iris unaffected in color.....	Iris unaffected in color.
7. Abnormal reaction to mydriatic.....	Normal reaction to mydriatic.....	Normal reaction to mydriatic.
8. Severe photophobia exceptional.....	Severe photophobia absent in simple cases....	Severe photophobia and blepharospasm.
9. Conjunctiva usually translucent, occasionally chemotic....	Conjunctiva opaque velvety, and at times chemotic.....	Conjunctiva translucent bathed in tears.
10. Slight tenderness on pressure.....	Tenderness not marked....	Tenderness not marked.
11. Posterior synechia.....	No synechia.....	No synechia.

The treatment of idiopathic iritis is simple, if seen early, and consists in the dropping into the eye of atropia, one per cent. or four grains to one ounce of water, to secure the dilatation of the pupil. Instead of the use of an aqueous solution some prefer the atropia in vaseline or atropia alkaloid in castor oil to prevent constitutional effects. The mydriatic effect is slightly increased if combined with cocaine. Pain is relieved in these cases by the application of

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heat and the use of morphia. Internally, mercury in some form and potassium or sodium idodide, as an alterative. If a history of rheumatism, manaca and the salicylates or sodium salicylate, or oil of wintergreen and the alkalies are indicated. Gouty iritis is described by Mr. Hutchinson of England and is occasionally seen. It is similar to the rheumatic form showing a tendency to relapse and attack one eye at a time. Treatment consists of mydriatics, anti-gout diet, lithium preparations, cholchicum and the iodides.

DISCUSSION.

DR. J. W. HAIRGROVE, JACKSONVILLE:

In discussing this subject which practically belongs to the specialist, I shall be very brief, and shall discuss it from the standpoint of the general practitioner. The treatment of ophthalmia neonatorum and its prophylaxis especially—I wish to say something in regard to its prophylactic treatment. Since the percentage of blindness from this disease is about 20 per cent. of the total blindness, the importance of the subject is readily impressed upon us, and I desire to mention some statistics recently reported of the prophylactic treatment by the methods of Credé, namely, the instillation of nitrate of silver and its effects, at the hospital of Halle, Germany, where the percentage of ophthalmia neonatorum was formerly twelve per cent. It has been reduced to something like two and one-half per cent. At the hospital at Leipsic under the management of Credé himself the percentage was reduced from seven and one-half to one-half of one per cent. The treatment consists of the instillation of a few drops of two per cent. solution of nitrate of silver after cleansing the eye immediately after the birth of the child. When we consider that this method is so simple in reducing a great number of cases, the objection to it ordinarily urged (the severity of the treatment), may well be abandoned.

Another form of disease which the Doctor refers to is

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phlyctenular conjunctivitis and its treatment. I wish to say that such cases are frequently caused by some difficulty of the nasal apparatus, and may be remedied largely by the correction of that trouble, and also after the drainage of the eye through the lachrymal duct. Ulcers of the cornea in children are many times overlooked, because of acute swelling and because of difficulty of examination of infants and children. General practitioners too frequently allow such matters to progress until great damage has been done to the cornea, simply from difficulty of examination. This is of sufficient importance to warrant the introduction of general anæsthesia by the administration of chloroform. It seems to me that cocaine is not sufficient in many cases of struggling children, as with it alone it is almost impossible to make an examination of the cornea, and general anæsthesia by chloroform is certainly much better. It puts the patient in a much better condition so that we can examine the eye by focal illumination and find out the true condition. We can then treat it ourselves or refer it to the specialist. Regarding the prophylaxis or prevention of diseases such as trachoma which come to us frequently from the homes of the poor, I will say that such a disease is within the province of the general practitioner to cure. He may, by urging methods of better living, and by giving general tonics, improve not only the general and constitutional conditions but the local condition as well.

DR. WILLIAM H. WILDER, CHICAGO:

I should like to emphasize the importance of the prophylactic treatment of ophthalmia neonatorum, a disease with which the general practitioner may come in contact as frequently as the specialist.

Dr. Hairgrove has mentioned the method of Credé, and has rightly said that if it were generally adopted, it would decidedly diminish the frequency of blindness resulting from the opacity of the cornea that ensues after a violent inflammation. The method of Credé is a simple procedure, and easy enough for any one even without the skill of a specialist. It consists merely in

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washing out the lids with warm water, then dropping in a few drops of a two per cent. solution of nitrate of silver immediately after the birth of the child.

I remember some years ago, when I was about to begin general practice, I served my term as interne in a hospital, where two years before that time the method of Credé had been adopted. We had something like 320 births that year, but not a single case of ophthalmia neonatorum. This method was carefully pursued, and it seems to me it is the duty of every general practitioner to pay strict attention to the eyes of these little patients, because it does not take more than twenty-four hours in some cases of severe inflammation to seriously impair the cornea.

In case this inflammation has started, it seems to me that in many cases we can get excellent results from the method proposed by Stilling of Strassburg, of the application of aniline colors, known as pyoktanin. With a two per cent. solution of the methylblue or yellow preparation these inflammations may often be checked.

I have had an opportunity of witnessing several cases in which the inflammation was decidedly checked by the instillation of this remedy, and it appears furthermore to the general practitioner for the reason that he does not have the annoyance of everting the lids and the pain incident to the application of a solution of nitrate of silver. However, in severe cases, the chief reliance should be placed upon strong solutions of nitrate of silver, which should be applied carefully with a soft brush to the everted lids once daily, and reduced in strength as the inflammation subsides.

DR. A. L. ADAMS, JACKSONVILLE:

I concur fully with both the gentlemen in the importance of the prophylactic treatment of ophthalmia neonatorum. I believe that it should be enforced by legislative act, so that each person coming in contact with the newly born would feel the necessity of constant watchfulness during the first one or two weeks after birth. Should the eyes become inflamed during this period

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some suitable officer should be notified and the proper treatment be commenced at once. In the state of New York, "An Act for the prevention of blindness," was passed in 1890, which, in all probability, will prove efficient and of great benefit to the state. The law reads:

"CHAPTER XLI.

"SECTION 1. Should any midwife or nurse having charge of an infant in this state notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such midwife or nurse so having charge of such infant, to report the fact in writing, within six hours, to the health officer or some legally qualified practitioner of medicine, of the city, town or district in which the parents of the infant reside.

"SEC. 2. Any failure to comply with the provisions of this act shall be punishable by a fine not to exceed one hundred dollars, or imprisonment not to exceed six months, or both.

"SEC. 3. This act shall take effect on the first of September, eighteen hundred and ninety."

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SECTION THREE.

CHAIRMAN, J. M. G. CARTER, WAUKEGAN.
SECRETARY, GEORGE N. KREIDER, SPRINGFIELD.

THE ADDRESS.

The Relation of Bacteria to Disease.

ELBERT WING, A. M., M. D.,* CHICAGO.

From the earliest times to our own the mental bias of physicians has been strongly toward philosophizing. This has been true because of the inherent difficulties of the subject matter with which pathology deals. That it is not due to lack of scientific method in early times, is conclusively shown by the fact that modern theories upon the subject are not in accord. And *some* theory is just as necessary for a working basis for the doctor of to-day as it was when "the Genuine Works of Hippocrates," contained all the knowledge which a progressive doctor needed to know. And, other things being equal, a physician's success and usefulness may be gauged by the completeness of his theories regarding disease, and the thoroughness with which he carries them out in practice.

The history of the development of bacteriology gives ample evidence that it has followed the common paths of the progress of all human knowlege. It has been marked by brilliant discoveries, boundless enthusiasm, bitter con-

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troversies and persevering toil, but it has also been crowned by constant progress, and one by one its problems are reaching solution.

A brief review of the main facts in its history will assist in appreciation of the present status of the subject. Further, by the law of its method this address is confined to a consideration of general considerations and must omit technical details. The difficulties of practical work in bacteriology are so great that constant reference to standard textbooks is imperative in its prosecution.

There are a few fundamental questions about which all of the discussion has hung, from the time of Anthony van Leewenhoek's communication to the Royal Society of London in 1683 to the recent one of Klebs on tuberculocidin.

Van Leewenhoek's discoveries raised the question of the existence and forms of bacteria, but the greatest controversies of the science have been settling the point as to whether bacteria are really the prime factor in diseases.

Finally the science is concerned in determining the manner in which the microorganisms produce the clinical symptoms—through their presence primarily, or secondarily through their products. That is, are the results due to bacteria themselves or to ptomaines, albumoses or enzymes?

The communication of van Leewenhoek, referred to, settled the question of the existence of bacteria, and the discovery of the various species has been merely a matter of time and perfection of microscopes. About two hundred years after the first announcement of the Amsterdam linen draper, Ferdinand Cohn, of Breslau, made a classification which remains substantially unchanged. In this classification morphology is the basis and cocci, bacilli and spirilli are the three groups under which all forms are classified.

The opportunity which the discovery of bacteria presented

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for building up theoretical systems of pathology was not neglected by the physicians of any of the centuries since the primitive lenses of the great Dutchman set the ball rolling. Of these theories, that of Plenciz (Vienna, 1762) was the best, both theoretically and practically, since some of his teaching stands to-day.

The sharpest scientific controversies, however, in the history of the science have arisen over the question of the origin or bacteria. The suggestion made by Needham, 1749, of abiogenesis or spontaneous generation, was eagerly taken up and defended. He advanced the theory because fermentation and decomposition occurred in flasks which, with their contents, he had boiled, and as he thought thoroughly stoppered. Bonnet, of Geneva, suggested that Needham's flasks were not efficiently closed, and later Spallanzoni proved the correctness of the suggestion. Flasks containing test solutions securely stoppered and boiled by him for an hour remained sterile. The next claim was that germs generate spontaneously in the air. This was disproven by two investigators. Schultze arranged sterilized solutions in such a manner that air could enter them only after passing through sulphuric acid or caustic potash solutions, and they remained sterile. Tyndall's solutions remained sterile in a glass chamber, the dustless condition of which he demonstrated by passing a beam of light through it. In 1854 Schroeder and Dusch showed that a cotton plug is an efficient germ filter. In 1860 Hoffman, and in 1861 Chevreul and Pasteur, showed that the drop of water of condensation in a doubly-bent tube connected with the flask also prevented the entrance of bacteria.

The first suggestion of spores came from Bonnet in 1762, but their demonstration was made by Ferdinand Cohn about a century later. He found that under favor-

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able conditions some bacteria passed into a so-called spore, or resting stage, and that these spores were much more highly resistant than the bacteria from which they sprung. This discovery accomplished two results. It utterly overthrew the doctrine of abiogenesis, and it became the basis for practical work in bacteriology. For example Kitasato's successful pure culture of the tetanus bacillus.

The first successful attempts to associate special bacteria with special fermentive processes, or with specific diseases, occurred about the middle of the present century. Pasteur discovered the ferments of wine and beer in 1857. In 1849 Pollender, and during the years from 1850 to 1876, Rayer and Davaine, established the constant presence of rod-like bodies—anthrax bacilli—in cases of splenic fever. And in 1871 Koch placed their association with that disease as the primary cause beyond question.

At present the work of bacteriologists is chiefly devoted to the discovery of additional specific species of microörganisms, and to the discovery of the manner in which the organisms produce the results associated with their presence and growth.

By a violation of the logical order of this discussion attention is called at this point to the products of bacterial growth. Physicians have long been familiar with the fact that through the action of vegetable cells upon the protoplasm of the cells of plants, certain basic substances are formed, known as alkaloids, which are alkaline in reaction, most of them amines, and which unite with acids to form salts. Again, when injected under the skin, or administered *per orem* in animals these substances alone or combined produce energetic and specific effects upon the end organs of nerves and upon the muscles themselves. Among these substances are atropine, chinchonine, aconitine, strychnine *et al.*

Now bacteria are simply vegetable cells, and by their

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action upon the protoplasm of animal cells they also produce alkaloids, the so-called ptomaines of Selmi, and certain derived albumens known as globulins and albumoses. A third series of substances associated with bacterial growth in the body are the enzymes, or unorganized ferments, pepsin and trypsin.

To another class of animal alkaloids Gautier has given the name leucomaines, and he claims that they are products of normal tissue metamorphosis in the body. In this opinion he has the support among others of Vaughn, of Ann Arbor. Breiger, however, the highest authority on bacterial chemistry, claims that they are really ptomaines formed in the intestine by the action of bacteria. Since their chemistry and physiological action are similar, the point in dispute is as yet of more theoretical than practical importance. A number of the ptomaines and leucomaines are intensely poisonous, as are also the albumoses and enzymes.

At one time the opponents of the germ theory of infectious diseases urged that the fact that certain symptoms followed the injection of pure cultures of bacteria did not prove that these results were due to the bacteria themselves, because, they claimed, other things besides the bacteria might be simultaneously introduced. This angered and amused the zealous bacteriologists, but they have had to yield the point. Much of the controversy and uncertainty which has attended bacterial research has been due to this failure to differentiate the results of the ptomaines, albumoses and enzymes of each specific bacillus. For example, as appears in detail later, the failure of Koch's lymph was due in a measure to this cause. The unreliable nature of the results due to injection of pure cultures is apparent from the following list of factors in inoculation experiments:

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In using infected tissue or excreta:

(1) The chemical constituents of the tissue itself.
(2) The ptomaines.
(3) The albumoses and globulins.
(4) The ensymes.
(5) The leucomaines, if present.
(6) Combinations of the above.

In order to make inoculation experiments rigorously scientific the constituents of the cultures must be used separately, and it must be known what results follow the introduction of

(1) The pure culture itself.
(2) The filtrate of the same.
(3) The special alkaloid present.
(4) The albumose, or globulose.
(5) The enzyme.

As yet but relatively little work has been done along these lines, but that which has is yielding hopeful results.

This work is the direction from which protective inoculation is to come. Ever since Jenner's discovery of the protective power of vaccine—cow-pox virus—there has been a growing hope that this would be found to be only a special application of a general principal, and that similar substances would be discovered which would stand in analagous relations to at least all infectious diseases.

The enormous difficulty which attends the prosecution of this subject of vaccination can be better appreciated by an enumeration of the conditions which modify the growth and products of bacteria, viz.:

(1) The nature of the nutrient media.
(2) The effects of temperature—this is very striking.
(3) The state of the bacteria, whether living a parasitic or saprophytic life.
(4) The presence of other forms of bacteria: e. g. of the bacillus of blue pus in anthrax cultures.

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A number of theories have been been advanced to account for the facts presented in preventive vaccination. Of these, the one most in accord with the known facts is, that of "the development of specific powers of resistance in the cells of the body to resist specific bacterial activities."

A very striking confirmation of this theory is presented by the history of the discovery of preventive inoculation against anthrax, and as it is typical of similar work in other diseases it is given here at some length.

In June, 1880, Greenfield announced his discovery that injections of the twelfth generation of pure cultures of anthrax bacilli produced no symptoms, and injections of earlier cultures in the series indicated progressive loss of virulence. In July 1880, Toussaint reported an anthrax vaccine, and that its effect was modified by the temperature to which the blood of the animal dead of anthrax was heated. Pasteur, and later Chauveau, working on Toussaint's plan, elaborated a system by means of which protective virus may be rapidly prepared in large quantity. It was found that at suitable temperatures the attenuated bacilli, as they are called, formed spores, and that these spores communicated their attenuated properties to the bacilli which were cultived from them. It thus became an easy matter to preserve the vaccinal material. In these inoculations several injections are made corresponding to the pure cultures of the twenty-fourth and twelfth days, and intervals of twelve days must elapse between them, giving time for the development of the specific power of resistance.

Of equal interest is the discovery that the blood of some animals dead of anthrax is protective for others. For instance, the mouse blood is thus protective for sheep (Klein).

The observation of Chauveau that lambs born of sheep

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affected with anthrax are immune to the disease, led up to the conclusion that as bacilli can not pass the placenta, the protective agent must be soluble. Hankin has concluded that this is an albumose. Of this albumose doses of one-five-millionth of body weight kills rabbits, and doses of one-ten-millionth renders rabbits immune to virulent anthrax, but again an interval must elapse between the protective injection and that of the virulent virus. This indicates, as Woodhead suggests, that the virulent and the protective principles are the same. This again is strongly confirmed by what is known concerning habituation to many vegetable alkaloids. Woodhead suggests that this acquired power of resistance may lie dormant for a long period to be exercised only on specific occasion.

An analysis of the so-called preliminary report of Professor Klebs upon tuberculocidin is appropriate in this connection. This is a report upon treatment of about 100 cases of tuberculosis, and in seventy-five of them time enough had elapsed for a report to be made upon them. Most of the cases were unequivocal ones of pulmonary tuberculosis. Klebs reports in substance as follows: The substance tuberculocidin is an albumose extracted from Koch's tuberculin. Its judicious employment is not followed by febrile reaction, but large doses may cause such reaction. Its judicious employment is followed by a disappearance of hectic fever. In susceptible animals, especially guinea pigs, its use prior to tuberculous inoculation retards the development of the tubercular process. It can be demonstrated anatomically that treatment by tuberculocidin is followed by involution and dissolution of tuberculous tissue, which occurs especially in the form of an exudation in the diseased structure. Necrosis does not occur, and there is no risk of establishing miliary tuberculosis. The results are better and more rapid the earlier

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treatment is begun. Hectic fever is not a contra-indication. In man two milligrammes may be tentatively given and if followed by no considerable elevation of temperature, the dose may be rapidly increased to a decigramme, or a decigramme and one-half. The injections may be given daily for a month, and intermitted for a month, and then resumed or not according to indications.

The results reported are as follows, viz.:

Of the 75 cases 14 were cured, 45 improved, 14 unimproved and 2 died. In some cases the conjoined use of other measures, such as hyper-nutrition, serotherapy, rest-cure, drugs may be indicated to improve nutrition, unpleasant results were not observed in cases of laryngeal tuberculosis. Finally the treatment is not incompatible with surgical interference.

A comparison of this report with the facts reported in this address, in a fragmentary way, concerning the discovery of an anthrax vaccinal fluid, shows very clearly that the investigation is made along the proper lines. It gives great encouragement to hope that discoveries of inestimable benefit to humanity may yet come from treatment of tuberculosis with a product of a pure culture of that bacillus. It shows also in a striking way that the forced premature announcement of Koch's discoveries was a lamentable misfortune. The length of this address already reached compels a simple reference to the present state of information concerning the other infectious diseases.

It is conceded that the bacillus of diphtheria of Lœfler is the cause of that disease. Failures to find it have arisen from a mistake in diagnosis, or lack of skill in technique, or failure to search for it in the proper position. The practical suggestions are made, that as it may develop in cases of simple pharyngitis, and may be found in the mouth days

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after the malady is cured, great care in local antiseptic measures is indicated in all cases of pharyngitis.

Special interest is aroused concerning tetanus from the fact of Kitasato's success in making pure cultures of the bacillus and placing it among bacillary diseases beyond question. The conclusions of Bosano are that almost all soil contains the bacillus tetanus, and that its presence depends upon defective drainage, hygenic conditions and degree of cultivation of the soil.

In regard to hydrophobia, two things are to be said, one that the best judges believe it due to one or more micro-organisms not demonstrated, the other that Pasteur's protective inoculations do protect under favorable conditions.

Klein's review of Koch's cholera report evidently shows Koch mistaken in claiming the coma bacillus always present in cholera, and establishes the claim that this bacillus is both found in other cases and has not been demonstrated the cause of cholera.

Woodhead reviews the ground carefully in a most judicious manner, and concludes that it is extremely probable that the coma bacillus is the cause of cholera.

It is practically conceded that typhoid fever is due to the presence and growth of the bacillus of Eberth and Klebs. No progress has been made in preventive inoculation. It grows in water and more freely in milk.

The ray fungus is the accepted cause of actinomycosis, and specific bacilli are claimed for syphili, leprosy and glanders, the remaining members of infective tumors, so-called, the class in which tuberculosis belongs.

The relation of bacteria to wound infection and to puerperal fever is considered so firmly established that a mere repetition of the surgical aphorism, that he who has suppuration in plastic surgery is either a poor or a careless surgeon, is sufficient in this connection. The amount of work

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which has been done, and the literature which represents it are very large. It is the direction in which at present the greatest hope lies of progress in preventive medicine. This is the appropriate time for oratorical pyrotechnics in summing up the benefits, but you are spared more than a mere mention of the names of those to whom the greatest debt of gratitude is due. These names are Semmelweiss, Cohn, Pasteur, Lister and Koch.

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CRIMINAL RESPONSIBILITY IN THE EARLY STAGES OF GENERAL PARALYSIS.

FRANK P. NORBURY, M. D., JACKSONVILLE.

At no time in the history of civilization have influences so comprehensive and far-reaching been contributory to spurring men to action beyond their capacities to bear as to-day. We are "a restless nation possessed of an energy tempted to its largest uses by unsurpassed opportunities," the disastrous results of which are shown in premature decay, in that most prevalent disease, neurasthenia, with its attending miseries and the increase of that form of mental derangement known as general paralysis of the insane. While it is true that syphilis is the basis of much of general paralysis, yet, the exciting cause, even in these cases, is over-work, brain tire and abuse of the nervous system. The American disease, neurasthenia, offers hope for recovery; the mental derangement, general paralysis, is a disease that carries its victims sooner or later, to the grave. A study of this most protean malady is of great importance to every physician, for its early recognition will often prevent crime, and modify the progress of the disease by placing the patient under proper treatment.

Further, we are hopeful that with the advancement and dissemination of the clinical knowledge of this disease, it will be recognized, while in its functional stage, and here arrested. Folsom, of Boston, has of the American writers, given us the most classical description of this disease, which I here quote.

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I. General Paralysis.—General paralysis is clinically a primary disease, sometimes acute, but for the most part subacute and chronic in its early manifestations, with a definite recognizable anatomical basis, and progressive, in which symptoms of brain failure too slight to be remarked at their actual incipiency are rapidly or slowly succeeded by a cerebral inco-ordination, both psychic and motor, including under the term psychic the so-called moral as well as purely intellectual attributes of the mind, a disease which in its course involves every function of the brain and may in its various phases exhibit many of the symptoms observed by the neurologist as well as most of those known to the alienist, first impairing, then paralyzing in its steady progress all those high qualities, mental and physical, that distinguish civilized man, and finally, after the wreck of mind and body destroying life itself." The early symptoms will concern us in this paper; they have not been very satisfactorily studied, because the attending physicians have not distinguished general paralysis from other forms of insanity and as a consequence the prodromal stage is generally passed before the alienist meets the case. The family or friends have been aware of a change in the character and disposition of the patient, but have not been much alarmed, "thinking it would pass away."

But no! The case is progressive, and some day they realize that insanity exists and forthwith apply for hospital treatment, too late, however, for benefit to the patient. Brush says it is unfortunate that the clinical features of the early symptoms of general paralysis are not more graphically defined, and attributes the cause to the lack of observation on the part of the attending physicians, who in very few instances have recognized the disease, even after it has advanced to such a degree as to require asylum care.

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The diagnosis of general paralysis is rarely made, as evidenced in the following diagnoses taken from twenty-six cases coming under my observation during the past four years: Nervous prostration, melancholia, traumatism, la grippe, brain softening, alcoholism, morphine habit. In the majority no form of insanity is given and the cause is stated as unknown. Folsom of Boston and Hughes of St. Louis have exhaustively studied the early symptoms of general paralysis. Folsom says the earliest signs of general paralysis are of the slightest possible brain failure. If, for instance, a strong, healthy man, in or near the prime of life, distinctly not of the nervous, neurotic or neurasthenic type, shows some loss of interest in his affairs or impaired faculty of attending to them; if he become varyingly absent-minded, heedless, indifferent, negligent, apathetic, inconsiderate, and although able to follow his routine duties, his ability to take up new work is, no matter how little, diminished; if he can less well command mental attention and concentration, conception, perception, reflection and judgment; if there is an unwonted lack of the imitative, and if exertion causes unwonted mental and physical fatigue; if the emotions are intensified and easily changed or excited readily from trifling causes; if the sexual instinct is not reasonably controlled; if the finer feelings are even slightly blunted; if the person in question regards with a placid apathy his own acts of indifference and irritability, and their consequences, and especially if at times he sees himself in his true light, and suddenly fails again to do so; if any symptoms of cerebral vasomotor disturbance are noticed, however vague or variable, then we can regard his case as one of general paralysis. Hughes, in a personal letter to me, says: There is undoubtedly a pre-ataxic stage of general paralysis; a hyperæmic condition when the paretic individual engages in or is inclined to engage in business and other ventures,

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having fewer features of certainty in outcome to commend them than would enlist the active financial interest of the person about to be afflicted with paretic dementia, in his normal mental state. At this stage when self-confidence is becoming supreme, and the morbid impression of conscious capacity for success in almost any undertaking, is possessing and growing intenser in the mind every day, the victim of commencing paresis may complicate his social relations as he is liable to do his business affairs, and just as he might do and does do in beginning paresis, where the initial symptoms are those of mental depression or melancholia.

Savage, of England, in a paper on the warnings of general paralysis, says: There are two forms of onset of the disease—the gradual and the sudden. In the latter, there is nothing to warn before the storm has broken. In the gradual onset there is a more or less regularly progressive degeneration of mind and body, so that the highest faculties show the first signs of change and the special attainments fail before the more general; the finer social and the finer muscular adaptations fail and changes and weaknesses in mind and body show themselves. To start with the motor side: Early fatigue is most marked, and is associated with indecision, doubt and hypochondrosis. Temporary aphasia he regards as an important symptom, and is present long before change in handwriting is noticed. This change in handwriting is specially an important symptom, and is present for a year or more before signs of general paralysis are declared. Facial expression changes, the face becomes fat. The mental and moral tone is changed; the changes of temper and character are noticed early in general paralysis. Self-feeling is exaggerated, hypochondrosis is a frequent warning, and in such cases the morbid ideas are centered in the gastro-intestinal tract.

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The combined motor and mental symptoms lead to a diagnosis of general paralysis.

The symptoms, as detailed by these authorities, seem striking and capable of being easily recognized, but careful study of the patient and painstaking interrogation of the family and friends are also necessary to define a case of general paralysis. The mental symptoms are variable, but usually this feeling of well-being prevails, characterized by excessive cordiality, boasting of power and wealth, marked by extravagance in everything undertaken. Emotions are seemingly in a balance; anger is easily and hastily aroused and as easily and hastily calmed; crying and laughing alternate quickly. Moral lapses are so frequent at this time that females are assaulted, undue exposure of the person in public places, sexual and alcoholic excesses are common, and so frequent are the varied moral lapses that the unfortunate subject, especially if he belong to the lower class of society, becomes lodged in jail for offenses committed. His irritability and anger may lead him to murder, assaults, and trespass on the rights of others. His exalted ideas of power and authority cause consternation in assembly halls, churches and in the seats of government. Such, in brief, is an outline of the early symptoms of general paralysis; the latter stages are seen within the walls of an insane hospital, where death, sooner or later, comes to relieve the weary sufferer of the burden of life.

II. Responsibility.—Medicine and law differ radically on the question of responsibility. Scientific medicine has been the pioneer, to explore the still unsettled regions of criminality among the insane, and has satisfactorily established principles which the legal profession must sooner or later acknowledge as scientific truths. This question of responsibility as viewed by medicine and law is as Judge Somerville, president New York Medico-Legal Society, says,

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the "same old fight of science against the crystallized prejudices of error and ignorance."

The law on the one side claiming culpability when knowledge of right and wrong exists, medicine on the other holding there is no criminal act when the individual can not choose between right and wrong because of the destruction of the power of self-control. The medical test is based on the presence of disease and its abnormal results on conduct. Legal test is metaphysical and theoretical. Medical diagnosis is based on pathology and experience, the legal ignores any physical condition which does not affect the moral attributes. The legal cares nothing for impulse, loss of will power or sudden change of character and conduct without motives or childish incentives. Medicine tests scientifically by taking in the whole man; it gives a study of the individual, a comparison of his mental condition when the crime was committed, with himself at periods remote and subsequent. By so doing we permit of the only rational method of determining sanity from insanity. "We supplant tradition and fiat of statutes by the facts of clinical medicine from which we draw just conclusions." We at once recognize the importance of a study of mental diseases in order to thoroughly and adequately determine responsibility. A physician is by right the proper person to conduct an examination to determine the unsoundness of mind, the familiarity with mental diseases accorded him in our own State by the law, requires him to acquaint himself with these diseases in order to sustain this position. That he does not do this we are painfully aware, and because of this inattention either through ignorance or indifference, the medical profession has been made to suffer ridicule and opprobrium from lawyers, judges and the press. So far has this gone, that it has been said that any ordinary man is able to detect any

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form of insanity as well as a physican. We, in the description of general paralysis have shown the difficulty attending the diagnosis of this form of insanity and insisted upon prolonged observation, in order that no mistake may be made.

The same will apply to all forms of insanity, especially so in cases involving criminal responsibility, and we reiterate that, for the sake of justice in cases presenting the plea of insanity, where doubt exists as to insanity, observations of the case be made and preferably by temporary commitment to an insane hospital, where the experienced superintendent and other medical officers may scientifically examine the case. The want of such methodical observation has no doubt caused many innocent to suffer and many guilty to escape. Such an examination impartially pursued will render great assistance to the courts and aid in the establishment of medical expertism upon a firm and scientific basis.

Responsibility in its Bearing upon General Paralysis.—I am sure there are many unfortunates serving sentence to-day for crimes committed, who should be treated as sick patients and given the attention they deserve. An analysis of their crimes will show that a diseased mind prompted the act and a disorganized will power permitted its commitment. The crimes, if they should so be called, of a general paralytic differ from those of the moral or criminal insane. Bevan Lewis says regarding the crimes of a general paralytic as compared to the moral insane: in the latter the crimes indicate impulsive and uncontrollable states as the result of a lowered or defective moral sense; the normal inhibitory control is wanting and instinctive impulses rise in full activity. It is not so with the acts of a general paralytic; they are neither premeditated nor impulsive, but casual, often appearing to be unconsciously performed;

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even if the act appear determinate, its nature and consequences are wholly obscure to the agent's mind.

And here the essential nature of these acts on the part of each subject becomes apparent; that high degree of representativeness essential for the recall of similar actions previously performed and the vivid realization of the consequences of such actions in the past, is here wholly wanting; and still less is that re-representative faculty intact, which enables him to contrast the act as viewed in its nature with certain ethical canons. The moral lapse is therefore truly significant of a clouded intellect. An act of theft may be committed with open effrontery, no attempt at concealment being made; the most wanton outrage on public decency, the most audacious libertinism—may be committed, quite oblivious to a breach of public morals. Hughes, in his letter, says: "I would suspect and recommend surveillance for a very active business man of from thirty-six to forty-five years of age who might be found acting in a manner different from that which, up to that time was natural to him in business or social affairs, especially if his conduct was such as might be attributed to a man under the exhilaration of drink, when it could be clearly shown that the man did not indulge in alcoholic drink at all. I am convinced that a good deal of unrecognized and irreparable harm has been done to the interests of paretics and the welfare of their families by rash procedures on the part of the former, which were unnatural to them in their thoroughly sane condition, by acts committed (business or otherwise) in the hyperæmic preataxic stages of this disease."

Folsom, in a recent letter to me, says, regarding the conviction and imprisonment of general paralytics:

"I do not see how it is consistent with a reasonable sense of justice to convict a general paralytic in any stage of his disease, no matter how early, and when a man of

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previous good character commits a crime it seems to me that he should be placed in an insane asylum for observation, if there is any doubt as to his responsibility. I have no doubt that in the near future all of our states will have laws, as some of them have, empowering judges to send people to insane asylums for observation in case of doubt of their sanity, and judges will more frequently use this power."

In our own State we have no such provision; in fact, our lunacy law is a failure, both as to the practical commitment of the insane and the protection of their best interests. The mittimus on which an insane person who has committed a criminal act is admitted into the insane hospitals of this State is equal to a life sentence in cases of general paralysis. It instructs the superintendent of an insane hospital "to take the body of said defendant (the hopeless paralytic) and confine him in said hospital until he has fully and permanently recovered from his insanity," which is when he dies. The general paralytic should not justly be committed to a hospital on such a legal paper, because, first, he is a sick man; second, he is not responsible for any criminal act whatever, and third, it is oftentimes to his advantage and a pleasure to his friends to have temporary absence from the hospital, and in case of impending death, to satisfy the desire of his family or friends, it may be best to remove him to his home, which can not be done when committed on a mittimus.

My conclusions are, after carefully studying the medico-legal bearings of responsibility in the early stages of general paralysis:

I. General paralysis is a plea for irresponsibility.

II. No judge is warranted in committing a general paralytic to the penitentiary.

III. It is not judicious or right to commit general paralytics to insane hospitals on a mittimus.

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IV. When in doubt as to the existence of general paralysis it is the duty of the judge or jury to forego sentence and commit the individual to an insane hospital for observation, at least long enough to determine the existence or non-existence of general paralysis.

LITERATURE.

C. F. Folsom—Transactions Association Medical Superintendents Institutions for Insane, 1890.

C. F. Folsom—Transactions American Association of Physicians, 1890.

Judge Somerville—New York Medico-Legal Journal, 1889.

Clark Bell—New York Medico-Legal Journal, 1890.

Bevan Lewis—Mental Diseases, 1890.

J. Hume Williams—Wood's Monographs, Vol. XII.

E. F. Brush—Annual Medical Sciences, 1890.

George Savage—Annual Medical Sciences, 1891.

A. Wood Renton—New York Medico-Legal Journal, 1889.

DISCUSSION.

DR. D. R. BROWER, CHICAGO:

It is not an easy matter to intelligently discuss Dr. Norbury's paper, because I have only heard an abstract of it. I agree with the author in regard to the extreme difficulty in making an early diagnosis in cases of general paresis. If the cases of suspected general paresis can be kept under observation for a short time, a few weeks or a month or two, there can be no difficulty in the diagnosis, and I believe we ought to be especially careful in condemning men in middle or a little beyond middle age who have established a previously good reputation or when they are accused of crimes that are entirely foreign to their nature. I think very many of these cases will be found to belong to the general paretic class, and a little time given to the consideration of their cases will free them from the danger of wrong accusations.

A few years ago a gentleman about fifty years old who had

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been at the head of a female seminary, conducting it with skill and excellent judgment for ten or fifteen years, educating the girls in a satisfactory manner, all of a sudden was accused of taking improper liberty with them, and was unjustly condemned, for the case in a few months developed into a well-marked case of general paresis.

I had brought to my attention not many days ago in Chicago a similar case, a man fifty-two years of age, who had established a record of exemplary character, began to make indecent propositions to persons on the street whom he had never seen before, and he made an attack on a servant girl in his house. He was caught in the act and tried on a criminal proceeding. After a careful investigation the case was found to be one of general paresis. A man who has lived an exemplary life to the age of fifty and then manifests evidences of sexual perversion, should have a careful investigation before condemnation, and general paresis will often be found to be the cause.

In the early stages of the disease the diagnosis is difficult. The muscles concerned in speech and the condition of the pupillary and patellar-tendon reflex, furnish the most valuable differential signs. The patellar-tendon reflex in the early stages of every case is always altered, not always in the direction of diminution, but sometimes in the direction of exaggeration. If you take such a case and find the patellar-tendon reflex disturbed one way or the other, and a certain thickness of speech that is unnatural to that person, and disturbed pupillary reflex, you are perfectly safe usually in pronouncing judgment.

Many of these patients do not recognize the difference between *meum et tuum* and enter stores and pick up articles in the most unconcerned way and walk off with them. A patient walked into a lawyer's office for advice and on departing picked up a book and a chair and proceeded to carry them off. When called to account he said they belonged to him and gave them up only after a considerable altercation. So these patients are frequently accused of petty larceny and often condemned on such charges.

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INSANITY IN PRIVATE PRACTICE.

RICHARD DEWEY, M. D., KANKAKEE,
MEDICAL SUPERINTENDENT STATE INSANE HOSPITAL.

To one who has had some experience in the care of the insane, the first idea that presents itself when considering insanity with reference to its occurrence in private practice, is the great disadvantage of a medical education which fails to provide the average practitioner with any adequate knowledge of insanity.

The course of instruction given at a majority of our medical colleges is such that is possible for a man or woman to graduate in medicine and enter upon practice without ever having seen an example of insanity or having gained an intelligent idea of the etiology, clinical history, diagnosis, prognosis or treatment of insanity.

These courses of instruction in the medical schools lay a foundation whereon a knowledge of most of the physical diseases may be built, but in reference to insanity the fact that it has a physical basis in pathology is but imperfectly understood, and there is often in the minds of otherwise able and intelligent physicians great ignorance, and even superstition upon this subject. The older ideas of demoniacal possession of some mysterious and unexplained fatality have scarcely been outgrown. A disease which affects the operation of the mind is apparently removed from the category of ordinary diseases, and there is introduced a new and strange element which seems an insoluble puzzle.

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The complete elucidation of the interpendence between the brain and mind is not in the present state of knowledge possible. Griesinger, in his practical treatise remarks, that if some higher intelligence were to descend to us and endeavor to explain the manner in which insanity is produced, our own intelligence would not be sufficient to grasp the explanation. This is probably true, and yet we are loth to admit that the subject is beyond comprehension. A famous professor of mathematics once remarked to me, when I quoted Griesinger's statement to him, that if an explanation were offered him from any source he would "try mighty hard" at least to understand it, and in the years that have elapsed since Griesinger wrote, it must be admitted hundreds of the ablest minds in medicine are "trying to understand mighty hard," and with encouraging success.

Years of experience with bodily diseases are of little assistance to the physician in coping with mental diseases unless a solid foundation in nervous pathology has been laid. Metaphysical conceptions of mind render it difficult to understand that there is a physical basis for the disease, and in meeting a case of insanity the unaccustomed practitioner is suddenly confronted with a situation, the key of which seems to have been lost. He is apt to think that this key has been thrown into a deep well of metaphysical speculation, but in reality it is accessible, and it is only necessary to dig to a deeper stratum of the same science of pathology which has been his guide in other diseases, but the opportunities for that deeper study have been lacking to most practitioners, and thus, "the things that are not confound the things that are." The only remedy for this confusion is the thorough study of the anatomy, physiology and pathology of the brain and nervous system as revealed by the newer researches of recent years. The sciences of

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neurology and psycho-pathology are in their infancy, but great progress is being made at the present time in their elucidation. To the general mind there is an element of awe and mystery in insanity, and many a general practitioner, when brought face to face with an actually insane patient, may say, with Shakespeare (substituting "insanity" for "conscience"): "Thus insanity doth make cowards of us all," and he feels an amount of anxiety and confusion which are fatal to coolness of judgment. The masterly control of the situation which is his in ordinary cases is gone, and under such circumstances the disposition manifests itself to pass the case on; to call in the aid of extreme measures, or to unload the responsibility in any manner that may be possible. It is often in the larger cities practicable to secure the advice of one who is familiar with the specialty, but the larger number of such cases occur in situations where they are beyond the reach of expert counsel, and the family doctor is compelled to take charge of them and do the best he can, and in dealing with them is in danger of making one or another of several common mistakes.

First, he may hurry the patient off to a hospital when such a course is not really necessary,

Second, he may keep the patient at home until some unfortunate casualty occurs, or until the most favorable time for treatment has forever passed away.

Third, in dealing with the case he may make unwise and unnecessary use of powerful nervines, sedatives or narcotics. He may resort to harsh measures of restraint which are unnecessary, or he may indiscriminately indulge the whims and vagaries of the patients or their friends in such a manner as to be harmful.

In endeavoring to lay down a few lines for guidance in

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this matter, I will briefly offer some suggestions under the above heads.

The reason of the embarrassment of the general practitioner is that he had had little or no opportunity to study normal or diseased brains either clinically or pathologically and a great advantage might be gained in this respect by almost any practitioner who would lay out a course of reading on this subject and would utilize every opportunity which offered for examination and study of brains both normal and diseased, and for the convenience of anyone not familiar with the literature, I append hereto a list of works that would be of value in such a course of study:

On taking up the possibilities of error in dealing with a case of insanity in private practice I will speak of

First, sending the patient too soon or unnecessarily to an insane hospital.

The sending of a patient to an institution for the insane is a grave step, and the decision on this point is often a dif-

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[1]This list, though necessarily imperfect and hastily prepared, would assist those to whom this is unfamiliar ground.

"Sanity and Insanity," Mercier, New York, Scribner & Welford, 1890; "Manual of Lunacy," Winslow, London, Smith Elder & Co., 1874; "A Manual of Psychological Medicine," Bucknill & Tuke, Philadelphia, Lindsay & Blakiston, 1879; "Manual of Insanity," Spitzka, New York, E. B. Treat, 1889; "Physiology of Mind," Maudsley, New York, Appleton & Co., 1878; "Pathology of Mind," Maudsley, New York, Appleton & Co., 1882; "Mental Physiology," Carpenter, New York, Appleton & Co., 1882; "A Treatise on Insanity," W. A. Hammond, New York, Appleton & Co., 1883; "Mental Diseases," Clouston, Lea's Son & Co., Philadelphia, 1884; "Diseases of the Nervous System," Gowers, Philadelphia, Blakiston & Son, 1888; "Nerve Prostration," Roose, New York, William Wood & Co., 1891; "Familiar Forms of Nervous Disease," Starr, New York, Wood & Co., 1890; "General Paralysis," Mickle, London, H. K. Lewis, 1886; "Transactions of the Congress of American Physicians and Surgeons," Vols. I and II, published by the Congress, New Haven, 1889 and 1892, W. H. Carmalt, Secretary, New Haven; for readers of German, "Lehrbuch der Psychiatrie," Krafft-Ebing, Stuttgart, Enke, 1890; on brain localization, "Gehirnkrankheiten," Nothnagle, Aug. Hirschwald, Berlin, 1879; for readers of French, "Clinique des Maladies du Système Nerveux," Charcot, Paris, Veuve, Bebé et Cie, 1892; "Etudes Cliniques sur Les Maladies Mentales et Nerveuses," Falret, Paris, Ballière et Fils, 1890; the works of Esquirol Baillarger & Morean (de Tours). Also for general reference, "Manual of Human Physiology," Landois & Stirling, two volumes, Philadelphia, Blakiston & Son, 1889; "A Text Book of Pathology," Hamilton, London, MacMillan & Co., 1889.

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ficult one. The consequences are serious, especially as the insanity thus becomes a matter of public notoriety and record, and there is no denying that this is an injury to an individual in business and social life. Although the more enlightened opinion of the day recognizes insanity wholly as a disease, there is in the minds of many still an association of something disgraceful in connection with it, and in our own state of Illinois this fact is emphasized by the operation of the law which compels all insane persons to appear in court and be tried before a jury before they can be sent to an institution for the insane. This provision of the law places insanity cases in the same category as criminal cases, and is now generally admitted by all to be objectionable on many grounds. No other state of our Union employs it. The progress of enlightenment will undoubtedly do away with it in our state.

An anxious question also of the patients and their friends in such cases is as to the treatment the patient will receive if sent to an institution. There is undeniably in the public mind an attitude of suspicion toward institutions for the insane, and a greater readiness to believe ill than well of them. Without attempting to discuss this here, it can only be said on this point that while there is nothing perfect in this world, and abuse and neglect may occur in such institutions, the greatest pains are, I believe, universally taken by those in charge of all the better institutions to avoid them, and with my knowledge of this matter I feel justified in saying that the chances of patients in respect to their treatment are better in the hospital than out. The care of patient's own family and friends is very apt to be injudicious, and not only injudicious but cruel. Some of the greatest barbarties I have ever known to be inflicted upon the insane were inflicted by their own family and friends, and it is my belief that there has been more illegal confinement and

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harsh and injudicious treatment in their own homes than in institutions.

The two things to be considered in deciding about sending the patient to the hospital are, whether there is serious risk, in keeping the patient at home, to the patient himself or to others; and whether the patient's own proper care and chance of cure require the care of the hospital.

To determine whether there is serious risk it will be necessary, among other things, to consider whether there are hallucinations, auditory, or visual, or of the other senses, which make the patient dangerous; whether there are tendencies toward suicide or homicide; whether there are perverted instincts or impulses toward acts of violence, destruction or outrage, and whether there is a prolonged loss of sleep and of food.

It is necessary to remember that in going to the hospital the patient comes in contact with others, and that such contact may be harmful, though every effort may be made to avoid the harm from this source. Special efforts are directed in every well regulated hospital toward curative treatment and toward avoiding every association or contact that might be injurious.

The advantages at home are that the patient has personal care of friends and is not associated with other patients, and is in familiar surroundings. Certain forms of insanity may be more susceptible of care at home than others. Among those Hughes mentions[2] insanity of pregnancy, childbirth and lactation, alcoholic insanity, tubercular or paralytic or senile insanity, to which I would add cases of hysteria, neurasthenia, and habit cases generally of morphine, alcohol, etc., and also helpless, feeble, and smply fat-

[2]Alienist and Neurologist, Vol. II (1881), p. 28.

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uous cases: although acute dementia may be marked by sudden violent outbreaks necessitating the restraints of a hospital; and furthermore, in any one even of the above mentioned cases the condition may be such as to require a prompt removal to some institution.

If there is a removable cause and a prospect of an early relief, it would be well to arrange for the care of the patient at home; to prepare a room with screens at the windows and secure one or more nurses, and endeavor to tide the patient over the attack. These arrangements may be made at a neighbor's house or the physician's house or in any private house or sanitarium. Some of these patients may also go among relatives or travel without serious risk. In all such cases advice should be secured, if possible, of some one having extensive knowledge of insanity. The pecuniary means and resources of the patient also enter largely as a factor in determining whether the patient can be treated at home. If the patient is sent away, there may be a choice between public or private hospitals, sanitariums, etc. Many patients require, as a first requisite, a total change of surroundings, and this may be secured without sending them to a public hospital. When patients are kept at home, certain adjuncts to their treatment may be very useful, as baths in various forms, massage, shampooing of the head, etc.

A thing that renders home treatment now more feasible is, that there is an increasing body of skilled nurses and attendants becoming available. Many of the institutions for the insane have training schools, and send out many well-qualified nurses and attendants with the classes of their yearly graduates, and the trained nurses and attendants of the general hospitals also can often be secured.

If the patient is in good physical condition a large amount of exercise may be taken to the point of physical fatigue,

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and better rest and sleep thus be secured. In all cases patients should be largely kept in the open air, where their condition will admit of it, and sometimes, to secure sleep at night, a glass of milk punch or some malt liquor will be more efficacious than large doses of hypnotics, and the after effects will be less harmful.

Second. The next question has reference to keeping patients at home improperly. The reluctance of friends to send the patient away is often so marked that it must be confessed there is more danger of improper detention at home than of premature sending to a hospital. The opposition of the patient or of friends in this respect is at times unreasonable and at other times quite reasonable and this point needs careful weighing. The advantages at home have been mentioned of personal care and presence of the family and friends, but there are certain cases in which these are injurious. Many patients are quite obstreperous and unmanageable with their own family and friends, who are easily cared for by judicious strangers. Some patients must absolutely go to the hospital. Most cases of acute mania, of epileptic insanity and of agitative melancholia come under this head. Also those who are excessively noisy, filthy, destructive or have perverted instincts.

The cases in which the family and friends of the patient are not apt to give good care to the patient are those of hysteria or nervous prostration, where they are over-sympathetic and too much governed by the unreasonable fancies of the patient. And on the other hand, where there is an overbearing and arbitrary disposition on either side, with irritable temper, cruelty may result. Another risk of not sending patients away is that their own family and friends, especially neurotic persons and children in the family may be injured by the presence and contact of such a person in immediate daily intercourse.

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Third. In considering the course to be pursued in case patients are treated at home, the following points should be taken into account:

To secure where it is available, expert advice.

Avoid excessive use of drugs. Drugs from the smallest part of the treatment oftentimes, as it is the general surroundings and hygienic management and the influences of a social, moral and intellectual kind to which we must look for benefit. If patients can not be kept at home without protracted stupefaction by drugs it is better to send them away. Hypnotics and sedatives should in general only be given at night and the patient should through the day be free from their effect. If the patient is in good physical condition a good deal of sleep may be lost in the early stages without serious harm.

Nurses and attendants—one or more, for a day or night or both—will generally be needed and a room properly arranged for the care of the patient.

A constant lookout should be kept for development of any dangerous tendency. Some frightful tragedies have occurred where patients were treated at home, even in the practice of noted and experienced specialists, engaged largely in this line of practice.

In dealing with patients common sense must be applied to all that is done. The unreasonable whims of the patient should not be yielded to, and yet his harmless fancies should be gratified as far as may be possible and for his good. In some cases it is especially important to avoid undue sympathy and in others any harsh or arbitrary thwarting of the wishes of the patient may be harmful.

The question of application of any means of mechanical restraint such as straight waist-coats, muffs, wristlets,

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mittens, etc., often becomes an urgent one. As a general rule it may be stated that a case which can not be managed at home without such means should be sent to the hospital. It will be a matter of exceeding rarity that anything in this kind need be employed under judicious management of an institution and the resources of the institution for avoiding their use are far greater than those of a private house. Every possible recourse should be resorted to before applying anything of this kind.

In conclusion, a word of advice as to the method to be adopted in case it becomes necessary to send a patient to the hospital. Under all circumstances in dealing with the patient a frank and straightforward course should be persued. One of the most vicious tendencies of the friends of patients and of those generally who have had no experience in this line, is to conceal the truth from patients, to fall in with all their whims, delusions and vagaries as if they were believed in; to promise them everything they ask without any thought of keeping the promise; to tell them falsehoods—e. g., that you do not believe them to be insane; that if sent to the hospital they are going to a first-class hotel to board and have everything their own way; that they are only to stay a few hours or days at most if they go to the hospital—all these methods of deceiving patients are injurious and harmful in a high degree. Patients should not be taken to the hospital by deceit. Of the two force is preferable to deceit, yet it is rare that any patient who would be manageable under any circumstances would not be more so by being dealt with frankly and rationally; yet kindly.

In conclusion; one guiding principle may be emphasized which is more needed than any other in dealing with the insane; namely: to treat them as nearly as the

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conditions of their insanity will allow, in the same way that we would treat a rational fellow-being or wish to be treated ourselves.

For Discussion see page 387.

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TREATMENT OF THE INSANE.

ANNE H. M'FARLAND, M. D., JACKSONVILLE.

The appalling increase in the number of the insane creates a demand for better understanding of the therapy of the already recognized neuroses.

The path of human life is so beset by constantly varying and complicated dangers, that to expect completeness in the equally complex co-relations of the human body, so influenced by such surroundings, would not be reasonable. These extrinsic factors of disorder, together with the vital processes of nutrition, afford the alienist his mournfully interesting subjects, of which under the head of "The Treatment of the Insane," the writer offers a few suggestions.

Cases of mental derangement and idiocy find their cause in the treatment received in the cradle; parents are therefore, at first, directly responsible for the training of the mental faculties of their children, the whole type of the mental character showing ever after the earliest applications to it.

Over-indulgent parents will produce in a child a spirit of obstinacy and rebellion, which will predominate over the better instincts, and make a beginning from which spring those traits and habits which destroy the mental balance. When the whole constitution is susceptible and impressions are most enduring, all the appliances which sound judgment have found to be salutary should be induced.

Many mental deformities are hereditary, the fault of one

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or both of the parents, as a consequence of their carelessness or vice. Writing upon this subject, Dr. Farr says: "There is a divine image in the future, to which the nation must aspire. The first step toward it, is to improve the health of the present generation; and improvement, if as persistently pursued as it is in the cultivation of inferior species, will be felt by their children and their children's children. A slight development for the better in each generation, implies progress in a geometrical progression, which yields results in an indefinite time, that if suddenly manifested would appear miraculous."

The alleged increase of insanity has become a favorite theme for study, which is a cheering sign of the times. Science has never until recently, found her true place, especially in the realm of psychology. So the obligations of the medical profession increase in proportion to the advancement made in the medical world.

[1] "We live in a social and business atmosphere of excitement, and our physical environments are rather stimulating than restorative. The man or woman, who in this age of demand for action, sleeps and feeds inadequately and works on, is destined to break down or die prematurely. Overwork overstrains and weakens the nervous mechanism, which holds intact the circulation of the brain. The 'vaso-motor system of nerves' is more or less paralyzed, and abnormally quickened circulation of the brain results in insomnia with insanity." These are the crises in life, when the mind totters and seems ready to fall, which the physician is more likely to recognize than any other person. [2] "The question of most pressing importance, which presents itself now, is whether the patient can be treated at home or whether it is necessary to send him to an asylum."

1. C. H. Hughes, Alienist and Neurologist. Vol. X., No. IV.
2. Spitzka's Manual.

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[3] "Twenty-five years ago, the almost universally accepted practice was to send them to an insane asylum with as little delay as possible, having no regard to the character and duration of the disease

"Maudsley thinks that a large proportion of the curable insane can be treated to best advantage either at home or in small private asylums. The late Isaac Ray summed up his vast experience in the treatment of the insane by saying that it cannot be shown that the introduction of insane asylums has added anything to the curability of insanity, much as they are to be praised from the humanitarian point of view." That commitment of patients to an asylum, where proper treatment is available, be the *dernier ressort*, is a mistake too often made, causing the case to become chronic before brought to the notice of an alienist, is, in a way pardonable in a state which bears the disgrace of retaining the most absurd lunacy law in the Union. On account of the dread inspired at the idea of the publicity of court-room procedures, friends of the patient are too often persuaded to part from hospital treatment. These, as a rule, are mental invalids, whose nervous symptoms make the ordinary surroundings of a household inadequate to their wants, through deficiency of proper nursing or the presence of annoying disturbances.

The fact should be enforced that insanity is seldom curable, except in its early stages, and any safeguard will be welcomed removing this obstacle to prompt treatment in the beginning.

Patients whose circumstances permit are allowed to travel, which, as a rule, aggravates the disease and increases its duration. The natural exhaustion following a journey of any length, together with the inconveniences met with away from home, so far overbalance the good derived from the

3. Mental Diseases, by Charles F. Folsom, M. D.

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change of scenes that the patient is seldom benefited. The ambitious surgeon, ever ready to test his skill, will advise an operation, and patients admitted to private institutions too often bear the evidence of a recent and unsuccessful attempt to restore the mind by surgical procedures. Among twenty patients in the female department of the institution with which the writer is associated, two have endured oöphorectomy; one, hysterectomy, and a fourth, nephrectomy, while two epileptics have parted with a portion of the brain substance.

Considerable difference of opinion exists among alienists of the present day in regard to the value of surgical procedures for the relief of insanity. Dr. Kiernan, in his article on "Mental Symptoms after Surgical Operations," says: "The cases most frequently reported, of late, occur in connection with operative gynæcology. Dr. T. Gaillard Thombs was perhaps the first American to report cases occurring after gynæcological procedures. Dr. Barwell, in a paper read before the London Clinical Society, reported acute confusional insanity after oöphorectomy, and cited others after oöphorectomy and hysterectomy, by Drs. Keith, Thornton, Dent, Lawson Tait and Benham. Dr. M. D. Field says there are a large number of female patients in lunatic asylums who have lost their ovaries. Five were admitted to the Blackwell's Island asylum in one year, directly from Bellevue Hospital, where they had been operated upon. They were persons who needed only a straw to carry them past the line of sanity, and the shock of the operations furnished this." [4]

Dr. Wise, of the St. Lawrence Asylum, has discussed the relations of bodily disease to insanity. He holds that there is no uterine psychology. In a somewhat extensive experience with gynæcologists in insane hospitals he had

4. Medical Standard, Sept., 1891.

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never seen a recovery from insanity, even remotely due to gynæcological treatment. My experience with patients from the operating table has led me to look upon the recovery with pessimistic feeling, having in mind a few cases where such treatment actually interfered with recovery. At the time of admission to the institution, and after a correct (?) history has been forced from those accompanying the patient, the question of classification confronts the physician in charge.[5] "This is of great practical importance to the safety, welfare and progress toward recovery, if curable, and to their comfort and contentment if otherwise. The general basis of classification should be the state and stage of the disease, as it affects the minds and influences the conduct and habits of individual patients. While the minds and feelings of some of the insane are directly and very greatly interested and occupied by the character of their associations and surroundings; others from difference in mental conditions, previous habits and associations, as well as the form of mental disorder with which they are affected, pay far less attention to these questions, in their bearing on their situation and daily life. Admitting all this, it is easy, even for a non-professional person to comprehend the great importance of attending strictly to the principles of correct classification in institution for their care and treatment."

Our own state has taken more interest in this subject than any other. In 1869 the State Board of Charities of Illinois asked for a conference of the state officers, together with the superintendents and trustees to consider improved methods of construction. At this meeting my grandfather, Dr. Andrew McFarland, expressed himself thus: "The present system of architectural construction adapts the entire institution to the demands of the smallest and worst class of patients, while for the great majority, all of these appli-

5. H. A. Buttolph, M. D. Alienist and Neurologist, Oct., 1889.

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ances are utterly unnecessary. Besides irritating the patient, confinement abridges his sources of recreation. The insane asylum constructed on the monastery plan is a costly one. We need more of the element of home life in the treatment of the insane. I would not abolish the old form. I hail the fact that the two systems may exist side by side. I would have the central hospital in the foreground and at a little distance, a group, not of cottages, but houses two stories in height, each to accommodate its forty inmates. Under this system classification could be made complete, and we would rather protect than weaken the close supervision which a good humanitarian purpose dictates." This prophecy made twenty years ago has been witnessed in the construction of the great Kankakee asylum.

After the consideration of the proper classification of patients comes the important question of mechanical restraint among the insane. Since Pinel broke the shackles of the fettered lunatics of Bicetre, and Chiarugi did the same for the chain-bound and imprisoned insane of Italy, physical restraint has agitated the minds of many. In a recent and instructive paper written by Dr. Arthur Loewy, of the Cook County Hospital, four indications are given for restraint, viz.:[6]

"First, To prevent patient from injuring himself.

"Second, To prevent patients from injuring others.

"Third, When from some bodily injury or ailment, it becomes necessary to apply restraint to secure proper action of therapeutic reagents.

"Fourth, When patients remove their clothing. It should never occur that patients in restraint should be gazed at by the curious public, nor should other patients be allowed to witness the restraint of a ward-mate. Because 'the care of each case has a bearing on every case in the same ward' is true. I cannot applaud the 'bench treat-

6. Journal of the American Medical Association, Oct. 24, 1891.

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ment,' nor agree with Dr. Loewy that seclusion is not the best means of quieting a maniacal patient. Those in a similar condition produce an irritating effect, when outbursts of mania come to one of their number, and I have seen patients become submissive shortly after separation from their companions. "But few are narrow-minded enough to say it is impossible that restraint should ever be necessary. But when used, it should be under the direction of a watchful and humane physician, prompted by the desire to use every method likely to restore health."[7]

Patients are too often left to the care of attendants, vicious and without control of temper. To avoid this, greater wisdom and caution should be exercised in their selection, chosen with the view of obtaining persons of kind dispositions and some intelligence, not pugilistic and ignorant. This suggests the advisability of establishing more training schools for attendants in our public institutions, the details of which it is not possible to consider in the limits of this paper.

When Combe proved insanity to be a disease and not a satanic possession nor a proof of the anger of the gods, there began to exist more or less uncertainty in the minds of the medical profession, regarding the best treatment for patients suffering from curable mental diseases. No specific treatment has been or ever can be, and while the profession makes but little advancement in psychical therapy, it should be remembered that to it is due the abolition of the once cruel discipline recommended and practiced. The rest, diet, baths, fresh air, occupation, diversion, and the least restraint possible, now take the place of cold douches, setons, bleedings, shocks, terror and harsh discipline.

In a paper on the subject of "Old and New Ideas with

7. Dr. C. H. Hughes, Alienist and Neurologist. Vol. XII., No. III.

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Regard to the Work and the Organization of Institutions for the Insane" the writer, Dr. Richard Dewey, says: [8] "How can it be denied that the gymnasium, the bath-house, the Swedish movement and the electrical appliances of the sanitariums would furnish supplementary means of beneficial treatment and would have a great influence for good on patients?" Further on, he says: "Curative wards should be supplied with all the healing influences which science and benevolence combined could exert. Every patient should have medicine, electro-therapeutics, balneo-therapeutics, massage, muscle culture, manual and mechanical. There should be music, games, sociability, trained nurses and attendants.

"The eye and ear expert, the gynecologist, the devotee of heart, lungs, nose, throat, the surgeon of brain and spine, the alienist and the neurologist should each and all bend their energies to the cure of the patient."

8. Dr. Richard Dewey, Chicago Medical Recorder, Feb., 1892.

DISCUSSION

ON THE TWO PRECEDING PAPERS.

DR. F. B. HALLER, VANDALIA:

I am heartily in accord with the sentiments that have been presented in these papers, and as they have been presented by experts, you will not expect much from an ordinary physician in discussing them.

I want to say that many years ago, when insanity began to increase in ratio in the state of Illinois, I thought it would be well for the general practitioner to pay more attention to psychology and learn to meet these cases in the prodromic stage, or, as we say in common parlance, when they are just on the verge of insanity. I am satisfied, in paying attention to these cases in the early stages, that I have been enabled to avert insanity.

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This has been particularly so with female patients that have fallen under my observation. The physician should inform himself so as to be able, if possible, to differentiate between an organic lesion of the brain and the reflex action that brings about insanity in many cases. Much depends on reflex action, and the physician has the power in the majority of such cases to avert insanity if he takes it at the proper time; this being the case, all I have to say is that every physician who has not already turned his attention to the study of psychology should do so and study more thoroughly the pathology of all diseases so as to be able to classify them better than they ordinarily do in their practice. It is only he who keeps abreast with the times and devotes his whole attention to the study of his profession, leaving out politics and other minor things, who can practice it successfully. If he does this he may be able to avert a case of insanity in the preliminary stage of the disease, or even after insanity has manifested itself. I have treated more than one case after the person was entirely insane, resulting in a cure without sending them to an insane hospital, and there has been no return of the disease. It seems patent to every reflecting mind, especially physicians', that they have a duty to do when they take into consideration the number of people who are insane in the state of Illinois and that are unprovided for at this time. When we reflect for a moment that there are three thousand (3,000) insane not cared for in the state of Illinois, it behooves every physician to be on the alert and prepare himself to meet these cases intelligently. We are all cognizant of the fact that we have no almshouses in the state of Illinois where the insane can be properly cared for. This being the case, rather than to put them into poorhouses, it would be much better that they be put in restraint at home and treated in the first stages than to be sent to an almshouse, as many of them are. What I want to impress upon the minds of the profession here is that it is their duty to not only prepare themselves to treat these cases, but to place themselves in a position to act as a committee of the whole and get the laws of the state of Illinois on insanity changed. The commitment of the insane to the state hospitals under our laws is simply barbar-

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ous; it should not be tolerated by an intelligent community, and certainly not by the profession of medicine. Let us reflect for a moment. When a patient is brought into court he is arraigned before a judge, and a jury is summoned by the sheriff who is usually notified to do this. An ordinary physician will perhaps be called upon to act as foreman of that jury. He (the sheriff) picks up frequently five other illiterate men who sit with the physician as judges on the insanity of that individual. We, as physicians, should look into this matter and impress upon the minds of our legislators the importance of changing our laws. I do not want to take up the further time of the society in discussing these papers. I do desire, however, to compliment the authors on the able contributions they have given us for our reflection; and I want to say further that I am glad this society has given so much space of late in its transactions for the discussion of this subject.

DR. JOSEPHINE MILLIGAN, JACKSONVILLE:

I desire to speak of a special mania that follows gynecological operations. Patients operated on for those troubles being in an unstable nervous condition, are more liable to mania than patients operated on for other surgical troubles. There are some cases that have a predisposition to insanity, and their troubles should be treated medically, if possible, rather than to resort to surgical measures which may turn the balance and produce insanity. If not operated on, the only trouble would be, in some of these cases, a pain, which might be very severe, but certainly would not be constant. In all periods of mania restraint is absolutely necessary and must be exercised with common sense, with a view to producing proper effect, no matter how severe it is. Of course, in surgical cases, if the excitement continues for any length of time and patients are allowed to do as they please, they may soon use up their vitality.

DR. ELBERT WING, CHICAGO:

I have had an experience which causes me to make some remarks on Dr. Dewey's paper. It has fallen to my lot to teach mental and nervous disease in one of the medical col-

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leges of Chicago, and the charge which Dr. Dewey made, that students may graduate without seeing a case of insanity, is practically true. My predecessors, who filled the chair on nervous and mental diseases, were Drs. J. S. Jewell and Walter Hay. I know that (having no particular interest at the time in this subject) I learned almost nothing about insanity from Dr. Jewell's lectures. A gentleman who is now one of the assistant physicians at Jacksonville Insane Asylum said, when asked how much knowledge he had acquired on the subject of insanity at college, "I never learned anything from old Hay." I am sure Dr. Hay was a more competent man than I am to give such instruction. It has seemed to me to be almost impossible to succeed, in medical colleges, in teaching students very much about insanity. I am sure this is so. I further believe that it is best to teach them only a few of the fundamental and underlying principles of the subject and give them simple classifications, which will serve them as a basis upon which to work. I think one of the essential difficulties in the matter is that which surrounds all teaching. Those of you who have had any experience in trying to teach medical students, know it is an extremely difficult thing to keep the enthusiasm of the class active unless one comes into close personal contact with the individual members of the class. In classes of the size of those of the average medical college, it is practically impossible to keep the interest of each man active. I should be very glad indeed for any suggestion from anybody which would enable me to make the teaching of my department more practical.

The charge made by Dr. Dewey, that students may graduate without ever seeing a case of insanity, is indeed true, and it is certainly a misfortune that there is no remedy except in clinical material which the average college can not command.

Dr. Ellen H. Heise, Canton:

I suppose that the advantages in this department of medical colleges require more exertion and more tact on part of the clinical teacher than perhaps that of any other, and I rise to pay this tribute to Dr. Brower as clinical teacher at the Woman's

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Medical College of Chicago. No class is allowed to graduate without having a practical demonstration in his line of study. I think that perhaps the small size of the class is in our favor, but it is Dr. Brower's custom to conduct a clinic at the Cook County Hospital for the insane each year; and while this may be somewhat difficult, I believe it can be so brought about that all students of medicine can have this opportunity of seeing and studying insane patients who are cared for by the public.

DR. GEORGE N. KREIDER, SPRINGFIELD:

I would like to ask Dr. Dewey, in closing his remarks, if he has any statistics bearing upon the subject which was so remarkably brought out in Dr. McFarland's paper as to the results of surgical operations. That was one of the most striking points in her paper, that many cases of insanity coming under her observation had been the result of surgical operations.

DR. J. M. G. CARTER, WAUKEGAN:

I would also request Dr. Dewey to bring out that point in closing the discussion. I regard it as a very interesting one.

DR. R. DEWEY, KANKAKEE:

In listening to Dr. McFarland's paper I was very much interested with its suggestiveness. I was particularly struck with one fact, and that is the great honor that ought to be accorded to Dr. Andrew McFarland for his prescience in forming a conception of the lines upon which progress was to be made in the development of institutions for the insane. At the time when he made the statement referred to by his daughter before the meeting of the State Board of Charities, the insane of the world were almost without exception accommodated in buildings of the old monastic or linear or congregate style of construction. I suppose largely as a consequence of his suggestion at that time, the Board of Charities of the State of Illinois made one of their leading efforts to bring about a new form of construction, which was placed afterward in practical shape at Kankakee; and what Dr. McFarland said at that time has been realized and with great benefit to the insane. This same plan has been adopted in all parts of our land in more recently constructed institutions.

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Where ten years ago there were not over two or three hundred patients in detached wards or houses, there are to-day more than six thousand insane in such houses in the states of Illinois, Ohio, Indiana, New York, Dakota, the province of Ontario, etc., that are accommodated in buildings built very much like an ordinary house, much more domestic and more comfortable for their inmates.

In reference to Dr. Wing's remarks as to instruction in insanity in courses of lectures at medical colleges, it seems to me that it is probably true that nothing more can be done than to supply the medical student with a skeleton, which he can afterward clothe by his own individual efforts; and yet I think more ought to be done in the way of clinical instruction, and it seems to me more might be done by bringing the patients before classes which would illustrate in a very broad way the more elementary principles of psychiatry. There is an unusually large amount of available material in the vicinity of Chicago, namely, the Cook County Insane Asylum, in which there are from six to eight hundred patients. Of course, it is somewhat removed from the medical centers, but I think classes could be taken there by permission in the manner stated by Dr. Heise, and as Dr. Brower has done with his classes at the Woman's College. There is also in close proximity of several of the medical colleges a new detention hospital, which has constantly a large number of cases of insanity, some awaiting trial, and some under detention before they are disposed of. I believe that arrangements could be made so that this material might become available in some way. I believe that with the progress which is being made in medical education we shall some day bring about this teaching.

The courses are being increased and extended by several of the leading medical colleges in the country. Three or four of them have established as obligatory a four years' course of medicine. When the length of time is given to the study of medical branches which should be given to them, there will be more ample opportunity for study in any special branch, and especially in the department of nervous and mental diseases. It is certainly impossible to instruct a large class. The work will have

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to be done by dividing a large class into smaller groups, in order to secure their interest and enthusiasm in the matter of insanity. I think the time will come when this will undoubtedly be done.

There are many other things which would be of interest to speak about, as for instance, the establishment of training schools for the insane and other subjects which I will not enter into at this time.

In reference to insanity being connected with operative procedures upon the brain or the pelvic organs, I think the idea which was presented to us by Dr. Davis on the first day of our session applies to those operations, in some measure, namely, that at times the rational mind is taken possession of by illusions, and sometimes by delusions; not that alone, because this extensive movement in the direction of operations upon the brain and pelvic organs has its importance. Very great and valuable results have been obtained and will still be obtained. I think, however, there has been a delusive percentage of cases of recovery from insanity after operations upon the brain, especially for the relief of epilepsy. When operations on the brain were first proposed, great results were reported to have been achieved, and a large number of cases were reported in which relief seems to have been secured and recovery followed; but the test of time has dissipated very largely the hopes raised in that direction.

At the meeting of the American Medico Psychological Association in Washington this year, a series of twenty-two consecutive cases as presented in which operation was done for the relief of epilepsy. Some of the operations were done for local traumatic injuries in which the brain substance was involved, and other cases operated on were of non-traumatic epilepsy; there were many cases in which relief followed the operation temporarily; but of these twenty-two cases there was only one apparently permanently successful one reported. Epilepsy returned in every one of the others in periods varying from two months to two years.

Regarding the operation of ovariotomy undertaken for the relief of insanity, I think what the Doctor has said is largely

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true. There are some cases in which a cure has been effected, but the percentage is very small. I have known two or three cases in which after ovariotomy insanity came on, the persons not having been previously insane, but insanity resulted from the operation. It was an acute attack. The patients recovered in a few weeks or months, and subsequently enjoyed as good, or possibly better, health than previously. I have no exact figures at my disposal, not having undertaken to present anything in this line. I have noticed in a large number of cases in which operation has been done for the relief of insanity of female patients, that very little benefit followed the operation. In a few of them the condition was worse after the operation than before.

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THE FEEBLE-MINDED AND IDIOTIC FROM A MEDICAL STANDPOINT.

W. B. FISH, M. D., LINCOLN.

Through the courtesy of Dr. Kreider, secretary of the section on Etiology and State Medicine, I have the honor of addressing you on a topic which is rarely brought to notice in your society meetings, although as active practitioners, doubtless you are frequently confronted with the unfortunates designated as feeble-minded or idiotic.

It may not be out of place to remind you that to this society is due the credit of the first effort in behalf of these afflicted people in our state. At the annual meeting of the Illinois State Medical Society, held in Bloomington, June 5, 1855, a committee consisting of three members, Drs. David Prince, E. R. Roe and J. V. Z. Blaney, was appointed to memorialize the legislature with regard to the establishment of an institution for the care and training of this class of defectives. The chairman of the committee, the late Dr. David Prince, whom you all knew and esteemed, was from the first identified with this work, and for many years unselfishly gave of his time and thought to the struggling institution at Jacksonville, and to the end of his life this work had a warm place in his heart.

Let me briefly call your attention to the number of these defectives as returned by the census of 1880—1890 not yet available. In the United States and in our own state they rank next to the insane in number. There were returned as insane in the United States, 91,997; as feeble-minded

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and idiots 76,895. In the state of Illinois the census of 1880 returned 5,134 as insane, and 4,170 as feeble-minded and idiotic.

It is well at the outset to have clearly defined views, if possible, of the terms in common use regarding this class of defectives. We speak of idiots, imbeciles and feeble-minded; these terms are often used indiscriminately and interchangeably. Some writers, notably the early workers in this field, use the word idiot as comprehending the entire class. Others discuss them as imbeciles. A late edition of the Encyclopedia Britannica defines idiocy as "congenital insanity."

When we attempt classification, we meet more confusion. Some writers, as Ireland, classify them from a pathological standpoint and also from an educational point of view.

The word idiot is most firmly established at the present time as the generic term including all degrees of weak-mindedness, but the term is extremely offensive to the parents and relatives of these unfortunate people.

The association of medical officers of institutions devoted to the care and training of these defectives, at their annual meeting held at Frankfort, Ky., 1891, unanimously adopted the words feeble-minded as covering all the grades of mental deficiency met with in the inmates of the institutions in their charge. I trust that this term may in time supplant the offensive one heretofore in use.

As I have already indicated, the classification of the feeble-minded is still unsatisfactory. Most of the American institutions adopt the classification of Greisinger as modified by Dr. I. N. Kerlin, of Elwyn, Penn., as a working basis, which is as follows:

1. *Idiots;* (*a*) *apathetic* (*b*) *excitable.*
2. *Idio-Imbeciles.*

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3. *Imbeciles;* (*a*) *low grade,* (*b*) *middle grade,* (*c*) *high grade.*

4. *Moral imbeciles.*

I have purposely omitted the pathological classification of Ireland, the physiological classification of Seguin, the ethnic or physiognomical classification of Langdon Down, as I feel that your time is limited and valuable. Much could be said of each, none are entirely satisfactory. For all practical purposes, the above classification covers the ground. Let us take up these different groups of the feeble-minded and briefly discuss them:

1. *Idiots.*—The definition of Ireland seems to me to be brief and to the point. It is as follows: "Idiocy is mental deficiency or extreme stupidity, depending upon mal-nutrition or disease of the nervous centers, occurring either before birth or before the evolution of the mental faculties in childhood."

(a) Apathetic Idiocy: A condition of helplessness, almost infantile in its character, where the mind seems an utter blank and the sensations of pain and hunger even are blunted.

(b) Excitable Idiocy: A condition of helplessness similar to the former, but associated with extreme irritability, sometimes resembling acute mania, but differing from this condition in the absence of hallucinations, delusions or objective purpose.

2. *Idio-Imbecile.* — The distinction between the two forms of idiocy above mentioned and idio-imbeciles is so slight that for all practical purposes this distinction seems valueless.

3. *Imbecility.*—Again Ireland's definition seems appropriate. "The word imbecility denotes a less degree of mental incapacity than idiocy." We note in imbecility the first glimmering of mind; the perceptive faculties are more acute than in idiocy.

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(a) Low-grade imbeciles are susceptible of habit training to some extent; can perform simple manual labor under direction.

(b) Middle-grade imbeciles are capable of school training, may be taught to read and write; under competent direction, with thorough industrial training, are capable of earning their livelihood, but incapacitated to do so unaided.

(c) High-grade imbeciles are susceptible of great improvement, mentally and morally; possibly twenty per cent. may be so improved as to be capable of self support with some advisory council; are able to learn trades, develop often musical talent of high order, are on the border line between weak mindedness and sanity. Many of the backward children of the public schools belong to this class.

4. *Moral Imbeciles* are susceptible of improvement almost to the extent of normal children, but utterly unfitted by reason of their mental obliquity for association with normal beings; destitute often of natural affection, cruel, vindictive, deceitful, treacherous. From this class are recruited the criminals, prostitutes, tramps and "Guiteaus" of society.

The above classification is almost entirely from an improvable or educational standpoint. Underlying all the manifestations of feeble-mindedness above mentioned, are varying pathological conditions to which I will next call your attention.

It has been too often the custom in speaking of the feeble-minded to ignore the existence of any special brain lesion and dismiss the matter by simply saying that the condition was due to a lack of brain development. An eminent German, Jastrowitz, propounded the theory that in idiocy the brain cells remained in an infantile condition. The pathological literature of the subject has been very scanty. I desire to call your attention to the work of an American

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student, Dr. A. W. Wilmarth, whose pathological studies are deservedly recognized in our country and in Europe.

In the *Alienist and Neurologist* of October, 1890, he presents the results of his work in the examination of 100 brains of feeble-minded children. Time and space will not permit me to do more than briefly summarize his valuable paper. His work covers a period of eight years. Thirty-four of his cases were under training in the school department of the Pennsylvania Institution for Feeble-Minded and might be classified as imbeciles of low, middle and high grade in the system of classification I have referred to. The remaining sixty-six were apathetic or excitable idiots. He found sclerosis and atrophy in 12 cases; sclerose tuberense, 6; diffuse sclerotic change, 7 (25 cases of the various forms of sclerosis). Degenerative changes in vessels, ganglionic cells or medullary substance not constituting true sclerosis, 15 cases; hydrocephalus, 5; general cerebral atrophy, 2; non-development in various forms, 16 cases; infantile hemorrhage, 1 case; extensive adhesion of membranes from old meningitis, 3 cases; angiomatous condition of cerebral vessels (with degenerative changes), 1 case; glioma with sclerosis, 1 case; porencephalus (literally a hole in the brain), 1 case. In thirty-one cases where actual disease or imperfect development of the brain proper was not demonstrated, there was hypertrophy of the skull, 6 cases; acute softening (recent), 2 cases; demi-microcephalic, 2; brain above usual weight but convolutions large and very simple in their arrangements, 2 cases.

It seems to me, gentlemen, that we can make some very practical deductions from the pathological data which Dr. Wilmarth has furnished us. Let me call your attention to the comparatively large number of cases of actual cerebral disease in contrast with the relatively small number where imperfect development seems to be the causative agent of

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the mental defect. These cases come largely under the care of the family physician in infancy and early life. We can not overestimate the importance of careful study and skillful treatment of the cerebral diseases of childhood and infancy. It may be in our power to make or mar the future of the little one we are called to attend, to bring joy to the mother's heart, or to make her life a lingering martyrdom.

Etiology.—It has been said that you can prove anything by statistics. Beware of the statistician with a "hobby," said one of my early preceptors. Good Dr. Howe of blessed memory, world famous as the educator of Laura Bridgman, felt strongly upon the subject of intemperance as a cause of idiocy. That it is an important factor none will deny, but if the descendants of drinking men were all feeble-minded, we should find indeed a "condition and not a theory confronting us." Dr. Bemiss of Kentucky, in 1858, presented a paper to the American Medical Association, claiming that feeble-mindedness was largely due to consanguineous marriages. I was appealed to by a prominent member of the legislature, now deceased, to furnish some statistics illustrating the influence of consanguineous union in the production of this condition. I could find in over 1,000 cases less than seven per cent. which gave a history of consanguineous unions. It is the belief of advanced thinkers on this subject, that consanguineous marriages simply intensify in the offspring any mental or physical defect possessed by the parents.

The truth seems to be that we can seldom select any one cause as producing this sad condition. Intemperance may be a factor, consanguinity may be a factor, neurotic parentage, scrofulous diathesis, all may be factors associated with each other.

The experience of nearly all institutions for feeble-minded children in this country is largely in accord with

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the etiological studies of Dr. I. N. Kerlin, superintendent of the Pennsylvania Institution for Feeble-Minded Children at Elwyn. My eight years experience at Lincoln, largely substantiates his study of 100 cases which I give below. So far as he could obtain information as to parental stock before birth of child they were as follows:

Consumptive	56
Paralyzed	6
Epileptic	16
Insane	10
Weak-minded	18
Nervously diseased	35
Intemperate	38
Syphilitic	2
Consanguineous	7

The above table embraces parental and grandparental history. I would add that a certain proportion of our cases, say 10 per cent., show no neurotic tendency in ancestral stock, and the condition of the children is due solely to disease occurring in childhood and infancy.

In generalizing from the above mentioned table, we must avoid jumping at conclusions. Children of consumptive ancestors are by no means always feeble-minded, although we find fifty-six in this table. Of course if conception should take place while either parent was in an advanced stage of the disease, the product of conception would in its central nervous system be probably below par.

It should be remembered that it is not always possible to get correct information from friends and relatives of this class, and we must consider this table as only approximately correct.

Treatment. It is difficult for one unaccustomed to this condition to recognize it in early life except as associated with grave cerebral lesion. Once recognized, how should we advise the anxious parent? Let us bear in mind first,

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that all our efforts should be directed toward the building up or production of a healthy animal. It is desirable to ascertain whether we have simply a case of arrested development without cerebral lesion or whether there exists acute or chronic brain trouble. In the former case, good food, exercise in the open air, general hygienic treatment, is indicated. The parents should encourage every effort on the part of the child to help itself; much harm can be done by waiting on a child. The natural motherly love for the afflicted one prompts her to perform every possible office, and spare the child any exertion. What is the result? The child becomes more and more helpless and it needs more and more attention. I have seen a poor little thing almost deprived of the power of locomotion simply because the mother gave it no opportunity to use its legs. I wish to protest against the common practice of cutting the frænum linguæ of the backward child who fails to talk at the proper time, under the delusion that the child is tongue-tied. Repeatedly have I been solicited to perform this useless operation in a child whose speech center was hopelessly diseased. And I am sorry to say that many of our inmates have been subjected to this operation before coming to us. In case of brain lesion, each of us must be his own guide.

Cranioectomy.—Newspapers and magazines have recently contained articles descriptive of this operation and the wonderful improvement which has followed it in the case of imbeciles and epileptic children. While I would not for a moment discourage any attempt to improve the condition of the feeble-minded, and while I recognize the hopeless condition of many of them, still it seems to me that we should be somewhat conservative in advising parents as to this operation. Possibly a certain percentage of cases may derive benefit from the operation, but they should be carefully selected, and the operation should be performed

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by a careful and experienced surgeon. A feeble-minded child should not be made a victim of professional ambition. Cerebral surgery doubtless has a brilliant future and also has its limitations. In the New York *Medical Record* of January 23 is an able article by Dr. M. Allen Starr, of New York, on the cerebral atrophies of childhood, with special reference to the operation of cranioectomy for the relief of imbecility, epilepsy and paralysis. This article is so conservative, so candid and fair, that I am impelled to quote largely from it, at the risk of telling a twice-told tale to those of you who have read it. He presents a *resumé* of 343 cases, gathered from the records of Kunradt, Andry, Wallenberg, Osler, Wilmarth, Feer, Henoch, Hirb, Fowler, Schultze, Sacks, Richardien, Bourneville, Fisher and others.

The pathological conditions observed were as follows:

	Cases.
Porencephalus	132
Sclerotic atrophy	97
Mal-development	32
Atrophy (consequent upon embolism or thrombus)	23
Meningeal encephalitis	21
Cysts	14
Hemorrhage	18
Hydrocephalus	5
Unilateral Hydrocephalus	1
Total	343

He further says that the study of the pathological condition observed does not absolutely contra-indicate operative interference, although it makes clear the fact that the lesion in the majority of cases is one which can not be improved by any means. If it is admitted that porencephalus, atrophy from vascular lesion, meningeal-encephalitis and hydrocephalus are incurable, and that hemorrhages can not be diagnosticated early enough to warrant the removal of the clot before

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it has caused atrophy from pressure, we have 193 cases out of 343 in which the operation would have been futile. This leaves 150 cases of sclerotic atrophy, mal-development of the cortex and cysts in which it is barely possible that an operation if it relieved pressure or stimulated brain growth, might have been effective.

He presents a list of twenty-three cases where the operation of cranioectomy has been performed; of the twenty-three cases, eight died as a result of the operation and most wisely says that "two criticisms may be offered upon the reports of this class of operation; first, they are considered too exclusively from a surgical standpoint, and recovery from the operation may be misconstrued as recovery from the original condition. Secondly, they are reported *too soon* after the operation to warrant any very positive statement regarding its permanent effects.

As illustrative of this fact, I will refer to one case reported by Wyeth in the New York Medical Record, February, 1891. The diagnosis was imbecility associated with a microcephalic skull, the age as eleven months, the result was said to be "surprising improvement," and the report is made but one month after the operation. In this case I should prefer to take the report of surprising improvement, with some degree of allowance.

Dr. Starr further cites two cases operated upon at his request by Drs. McBurney and Hartley. One was of hemiplegia, epilepsy and mental weakness, age seven. The result was in this case one of apparent relief of the epilepsy and mental improvement, but Dr. Starr, with commendable frankness, says that he is of the opinion that the mental improvement may be due to more special and intelligent instruction and management than the child had received prior to the operation and to the progress of natural development. The second case was one of imbecility, epilepsy and hemiplegia,

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age eight and a half years. The result was improvement but not positive cure of the epileptic condition, as she still has six seizures daily which do not yield to bromide or chloral. Dr. Starr sums up his valuable article as follows:

1. Hemiplegia, sensory defects and imbecility occurring with or without epilepsy in children are chronic diseases incurable by medical treatment. All means which may be legitimately used to save the individual from a life of invalidism and to take the burden of his care from the family is to be employed.

2. The pathological condition producing these symptoms may be either gross defects and atrophies of the brain or an arrest of development in the cerebral cells without any change which is apparent to the naked eye.

3. It is at present impossible to determine absolutely the pathological condition present in any given case without exploratory operation.

4. Such operations are not without danger, but if caution is used in opening the dura, and if the operation is made as short as possible, the danger is avoided. A mortality of eight cases in twenty-three operations reported should lead to a very conservative prognosis to the friends and relatives of the patient.

5. When manifest atrophies are present the operation will not produce any result. When the condition is one of arrested development of cerebral tissue it may prove of service. When clots, cysts or tumors are found and removed the chance of recovery is increased. When the skull is markedly microcephalic from early union of the sutures, the increased space given to the brain by the operation appears to stimulate its growth and development.

It seems to me questionable whether in case of arrested development of cerebral tissue we have sufficient data to determine that this operation would lead to any better

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results than could be obtained without the operation by special training in an institution for this class of defectives. In a case of arrested development of cerebral tissue I would not advise an operation. I think that a reasonable doubt exists whether in a microcephalic, the skull does not accommodate itself to the size of the brain it envelopes. Is it proven beyond doubt that early union of the sutures at the expense of the development of the brain is a demonstrated fact beyond controversy?

6. Epileptic attacks are frequently reduced in frequency and modified in character by craniotomy. When the opening of the skull remains covered only by the soft tissues, it appears to act as a safety valve allowing changes in the intra-cranial contents to occur without producing pressure; this may be true; further data seems to be demanded.

7. While hemiplegia, aphasia, athetosis and sensory defects have been relieved by operation, it is as yet impossible to predict to what extent imbecility may be relieved.

8. Reports of cases should be made in full and not within six months of the time of operation, as conclusions can not be reliable unless reached from long observation. I have quoted very liberally from Dr. Starr's paper, as it seems to be sound, judicious and conservative, and it has evidently been written in the true scientific spirit of candor and fairness. The future of cerebral surgery may be fraught with much benefit to suffering humanity. The old motto "prove all things, hold fast to that which is good" should be our guide in determining its benefits or failures.

We who are connected with institutions for this class of defectives do not arrogate to ourselves absolute knowledge as to the best methods to be pursued in alleviating this unfortunate condition. We are ready to receive aid from any source. From our present point of view it would seem that but few cases come under our care where we could con-

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scientiously advise surgical interference. The institution is the last resort of parents having an afflicted child. When all other hopes of improvement fail, they bring them to us. It follows that in almost every case, the cerebral lesion, if it exists, is confirmed and beyond help from surgical interference. Hence the family physician must in most cases be the arbiter as to the course to be pursued regarding a feeble-minded child during the period of life best adapted for surgical interference.

A few words as to the establishment and plan of an institution for feeble-minded, and I am done.

The institution for feeble-minded should be established upon broad lines and with a definite purpose. In the opinion of those who have had practical experience in the work, about 1,000 should be the limit under any one superintendency.

Provision should first be made for a school department, where those capable of education can have all the advantages of training and education they are capable of receiving. Industrial training should supplement or go hand in hand with school work. We should recognize the fact that those committed to our care should be trained in the industrial arts and fitted, so far as possible, to earn their livelihood. We can not expect to develop poets, philosophers, skilled mechanics or statesmen; we can, however, render a certain proportion of our charges capable of doing good work as farm hands, seamstresses, shoemakers, laundrymen, etc. Tailoring, shoemaking, broom and brushmaking and wood carving can be taught to advantage in an institution for the feeble-minded. A certain proportion of our inmates may be trained as sub-attendants, assisting in the care of the more dependent and helpless of our charges; at least twenty per cent. in the institution may be made self-sustaining.

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Custodial buildings separated from the school department should be provided for helpless cases of each sex, and the trained graduates of the school department who have no home should be utilized as care-takers for this class, under intelligent supervision.

Separate buildings for epileptics of either sex should be provided. The epileptic should not be deprived of the pleasures and enjoyments of life and should receive skilled medical treatment. There is no provision made for epileptics at the present time in our state save with us; we have already ninety cases in our care. As the tendency of this disease is markedly toward mental enfeeblement they are proper subjects for the care of an institution for feeble-minded, but should not be associated with other cases, for obvious reasons.

Departments for industrial training should be located in close proximity to the school department. Such articles as are used in the institution should be, as far as possible, manufactured in the shops.

A farm department need not necessarily be closely connected with the parent institution, but should not be further removed than one or two miles. An allowance of one acre per inmate should be considered as adequate, and all of the milk, vegetables, small fruit and farm products required for the institution should be produced at the farm, and the older male inmates given employment. All of the beef used by the institution should be purchased on the hoof and slaughtered at the farm, thereby making a great saving in expenditure.

The above plan of an institution, the "colony plan," meets with the approval of all who have had practical connection with this work. The plan contemplates utilizing to the utmost the labor of the inmates of the institution, training them mentally as far as they are capable of being

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trained and supplementing school training with training in the industrial arts; reducing the cost of maintenance to taxpayers, fitting as many as possible for self maintenance and preventing the increase of this affliction by life guardianship of imbecile women.

As I close this paper I can not refrain from calling your attention to the demands of these afflicted people in our state. We have at the institution at Lincoln over 500 applications for admission on file that for want of room we are unable to accept. As I have before stated, there are at least 4,000 of these afflicted people in our state. Should we at least not care for one-fourth of them and give them a chance in the battle of life? We can not realize the extent of their affliction until it is brought home to us. If we are neglectful of the claims of these people upon us; if we relegate them to the county houses and allow them to bring into the world other unfortunates, we are violating every principle of political economy, and as a consequence, increasing our burden of taxation.

If we consider the matter from a humanitarian standpoint, we will surely give the feeble-minded child who comes into the world through no volition or act of its own the same care that we grant to those who, by their own follies or vices lose their reason. Our noble profession has ever been active in all good works, and I feel sure as I gaze upon the countenances of my medical brethren present that the same spirit that prompts them to minister to suffering humanity at the sacrifice often of their own health and lives, will not fail to recognize the claims of those whose helplessness and innocence appeal to the finer feelings of our natures.

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DISCUSSION.

DR. GEORGE N. KREIDER, SPRINGFIELD:

Mr. President, I think all will be astonished to hear of the large number of cases of feeble-mindedness in our state to-day. There is a ray of hope in the fact that such a large number are probably due to tuberculosis. The efforts which will be successful in treating this scourge of the human race may be successful in the treatment of idiocy also.

I was glad to hear an expression regarding the operations which are now the fashion all over the world for idiocy. It has always seemed to me from reading the accounts that much more has been promised than was actually accomplished by the operations, and that those persons doing these operations were working on insufficient grounds. Personally I can bear testimony to the excellent work of Dr. Fisk in the treatment of these cases, and can only emphasize the wish which he has expressed, that a larger number of these unfortunates should be placed under the care of the state.

DR. M. ROONEY, QUINCY:

A good many years ago I attended a family in which I used forceps in the delivery of a child. The child was an idiot. Another child was born without forceps, and that was also an idiot. Three of the children in the family were idiotic, the other children were very bright. I would like to ask the Doctor if he has paid special attention to cases of forceps delivery. I would also like to ask whether he has paid any particular attention to the visual organs.

DR. KATHARINE MILLER, LINCOLN:

I would like to say just a few words on this subject. I have never visited any other public institutions for the care of feeble-minded persons, but I want to say that I have frequently observed the results of the treatment of these cases at Lincoln by Dr. Fish; and I desire also to say that it is a great mistake when a physician recommends, or parents take the responsibility of

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keeping a child in its most helpless condition. There is no doubt parents do that, feeling that the child can not be taught anything of real value and that it is less trouble to keep it, as nearly as possible, in the condition of a helpless infant than to try to develop its faculties to a slight extent. The means of improvement undertaken by Dr. Fish are to be commended. The things which some of these feeble minded persons do would be creditable to the brightest pupils. In visiting this institution you will see the handiwork of feeble-minded girls which few of the brightest of women would undertake to equal. Of course, they probably could not be developed along all lines of mental or physical labor to this extent; but they have capacities in certain directions which can only be brought out under the care of those familiar with such cases and having special interest and abilities in the direction of training them. I think physicians as a class should use their influence in communities to bring public opinion to such a state of feeling that the state should furnish the means of training all these children. Many of them can be trained to be helpful to themselves and their families. Very few of them can be trained to that point if left to home care.

DR. ELLEN H. HEISE, CANTON:

I would like to ask what the restrictions are regarding admission to the institution for the feeble-minded at Lincoln?

DR. ELBERT WING, CHICAGO:

I have some slight knowledge of the subject mentioned by Dr. Rooney. A good many cases of chorea and epilepsy have come to the clinic in mental and nervous disease at Chicago Medical College, and occasionally we have cases of athetosis or hemi-athetosis—the class of cases first reported by Dr. Hammond as post-hemiplegic athetosis and post-hemiplegic epilepsy. The history of the cases shows that the trouble is due to lesions which occur during difficult labor, but opinions differ as to whether the trouble has resulted from a lack of resort to forceps, the prolongation of labor, or to the unskillful use of forceps. My own impression is that adequate statistics are not available, regarding such cases, and one's opinion as to the pathology in any individ-

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ual case would have to be based upon the history and conditions of that particular case.

DR. W. B. FISH, LINCOLN:

I will be very brief in closing the discussion. In reference to forceps delivery it is difficult to get any reliable statistics bearing upon this point. My former colleague, Dr. Wilmarth, in making an examination of 100 feeble-minded children, thought that but five per cent. showed injuries inflicted by forceps. I would not state this as a fact. There may have been injuries due to an unskillful use of the forceps, and in other cases injury may have been brought about by prolonged delivery. Possibly in some cases use of forceps would have prevented injury to the skull.

In reply to Dr. Rooney I would say that a certain proportion of our inmates require optical treatment. I do not think their visual organs differ markedly from those of normal children.

In regard to admission, children are admitted from the age of eight to eighteen. We keep the girls for life unless they can be sent to satisfactory homes, where we are sure they can be properly cared for. The by-laws of the Institution require the discharge of males when they reach the age of twenty-one years.

The best treatment for those who are disposed to be unruly is to get them interested in some kind of work. When this is accomplished they seldom give any trouble. The majority of these children are affectionate and easily influenced.

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A STUDY OF MILK AND ITS USES.

J. M. G. CARTER,* M. A., M. D., SC. D., PH. D., WAUKEGAN.

It would seem to be unnecessary to make a special study of the milk question, were it not for the amount of incorrect information current in regard to the subject. This ignorance, it is necessary to say, is not wholly confined to the laity. The state makes it a duty of the authorities to see that cattle which are to be "beefed" are in good condition. If horses or cattle become afflicted with pleuro-pneumonia, the state authorities and health commissioners are at one excited over the matter, and a thorough investigation is made, and proper measures adopted to remove the danger. But how many of us ever ask whether the dairy from which we secure our milk is composed of healthy or unhealthy cows? It is asked of what stock or breed they are, but the state of health, the quantity of food, and even sometimes the quality of food are not investigated.

Cattle are subject to indigestion, diarrhœa, constipation, febrile diseases, skin diseases, tuberculous affections, etc. While temporary illness of a cow may not greatly affect the milk, not sufficiently, perhaps, to make any perceptible impression upon the individual who is using it, yet it does affect one to a some extent, and if the illness becomes more severe, or of a chronic nature, the milk will become so changed in its normal constituents that disease will be developed eventually in the person using it. The propor-

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tions of the elements of which milk is composed may be disturbed to so slight an extent that an adult would feel no inconvenience from drinking it, while an infant might be thrown into a state of severe indigestion or fatal cholera infantum from use of the same diet.

An analysis of human milk gives the following composition: Water, 86.271; solids, 13.729.

The solids, consisting of proteids (albuminoids), 2.950; fat, 5.370; lactose, 5.186; salts, .223.

An analysis of cow's milk gives the following results: Water, 84.28; solids, 15.72.

The solids consisting of proteids (albuminoids), 4.32; fat, 6.48; lactose, 4.30; salts, .62.

The casein or caseinogen of human milk not having been satisfactorily separated, I have not indicated the per cent. in cow's milk in the table, and in both tables it is included in the proteids.

It will be seen from these analyses that there is a difference existing between human and cow's milk, both in the quantity of water and the amount of solids, but a greater difference is observed in the relative and actual amounts of the various ingredients which combine to make up the solids. All the compounds named in the analysis given here are in greater amount in cow's milk than in human milk, except lactose or milk sugar, and it is to be noted that the excess of proteids, or nitrogenous compounds in cow's milk is almost 50 per cent. above the amount in human milk. It is because of these differences that cow's milk must be modified by the addition of other ingredients and proper dilution before it becomes a suitable diet for infants.

Cow's milk, however, contains carbon, oxygen, nitrogen and hydrogen, the elements so necessary to the human body in various proportion in the form of water, casein, albumin, fat or butter, and lactose or milk sugar. It also

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contains sulphur in the proteids, and traces of various salts. Indeed, adult life may be supported for a considerable time upon a milk diet.

After a time, however, varying according to the tastes and idiosyncracy of the person, nausea and loathing of milk may occur, and it is to be remembered that while in some cases this aversion will not appear for weeks, in others it may be only a few days before the stomach refuses the diet. The cause of this disturbance rests in the nitrogenous matter, proteids or albuminoids, which occur in too great quantity in proportion to the carbo-hydrates, and thus interfere with digestion. For instance, the body requires 18.3 grammes of nitrogen daily, and of carbon it requires 328.9 grammes. To obtain the proper amount of nitrogen then requires one to drink 2905 grammes of milk, or more than two and a half litres daily, and to secure the proper amount of carbon requires one to drink 4652 grammes, or about four and a half litres daily. To secure the proper amount of carbon from milk then requires drinking too much water, under ordinary circumstances, as well as taking too much fat and albuminates. This is not so objectionable in children as in adults, for in children the elimination and growth are rapid, and water and fat are essential.

The benefit arising from the use of a liberal milk diet—one and one-half to two and one-half litres a day—in typhoid fever and similar diseases, is due to the fact that nitrogenous metabolism is great in these pathological states, and the extra amount of albuminoids or proteids in milk supplies this new demand of the system. Where it is desired to give muscular tone and great strength, a milk diet should not be prescribed. It is omitted from the diet of athletes. It should be remembered that the time required for digestion of milk in the human stomach is about three hours, and when prescribed in sickness it should be given

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as often as that; but if only small quantities can be taken at a time it should be given more frequently.

In view of the fact of the assistance which this diet renders in creating new tissue and aiding elimination, may we not suspect, with Galen and Parkes, that milk would constitute a good remedy for failures in tissue formation and elimination in the aged? It must not be forgotten, however, that some old people can not digest milk.

Aside from the idiosyncrasies and peculiarities of certain individuals, the causes of disagreement of milk with patients may be summarized as follows: 1, contamination by disease-germs from the cow: 2, poisonous foods eaten by the cow; 3, extraneous disease-germs; 4, pollution by dealers; 5, souring or decomposition; 6, indigestion of curds in weak stomachs.

Not only is milk affected by such diseased conditions as feverishness, pain and the like, but it is often contaminated by germs present in the animal at the time the milk is secreted. These germs may be the cause of acute disease, as scarlet fever, diphtheria, typhoid fever, and possibly pneumonia, in mothers; foot and mouth disease, scarlet fever and the cattle plague, in cows. Among germs causing chronic diseases which may be conveyed in the milk may be mentioned as most important, the bacillus of pearl disease in animals, causing tuberculosis in man. It is well known that infants nursing tuberculous mothers are liable to be inoculated with the bacillus tuberculosis, or at least to be made more susceptible to its ravages. In the cattle plague, the milk contains blood.

Poisonous foods eaten by cows deteriorate the quality of milk, and may render its use dangerous. The disease known as milk sickness has been supposed to be due to some poisonous plant being eaten by the cow. Others again, to be sure, have supposed it to be a germ disease.

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Poison ivy, rhus toxicodendron, and other western plants, are supposed to poison the milk when eaten, and render it unfit for use. In fact, many kinds of food used to keep cows are deleterious. Brewer's swill, autumn leaves, garlic, cabbage and turnips should all be eschewed as milch-cow food, because they deteriorate the milk. Disease-germs may enter milk from extraneous sources. This may occur in many ways. While in some large dairies every precaution is taken to furnish pure milk, few average dairymen, perhaps, wash their own hands before milking. This should be done, and not only this, but the udders also ought to be thoroughly washed, in order that no manure or dirt may get into the milk. It is well known that diseases are sometimes caused by pus from sore or ulcerated udders entering the milk. Thorough cleansing would obviate this liability to disease in great measure, but what is better still is the prohibition of the use of milk altogether from cows with ulcerated udders. Stomatitis and apthous sore mouth are diseases sometimes caused by carelessness in these particulars.

Milk is made blue by triphenyl-rosanilin, which is probably a bacterium, perhaps oidium lactis, and is known to produce gastric irritation, diarrhœa and feverishness. M. prodigiosus is a purple red micrococcus which sometimes grows quickly in standing milk. Another bacterium, B. synxanthum, which occurs in milk, causes a yellow color. Milk containing large quantities of oidium, even through the blue color may not appear, may produce dyspeptic, sometimes even cholera-like attacks, and possibly apthous affections of the mouth and alimentary canal. It is a matter of extended observation that milk may convey the poisons or germs of typhoid fever, scarlet fever, diphtheria, etc. Parkes tells us that Ernest Hart has collected and tabulated 50 epidemics of typhoid fever, 15 of scarlet fever, and 7 of diphtheria,

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due to milk poisoning, and since that was written many other epidemics have been reported, due to a like cause.

The pollution of milk by dealers is so well known that it is scarcely necessary to spend time upon this phase of the subject. It should be remembered that good milk has a specific gravity of about 1030 to 1034, and much deviation from this standard will bear investigation. Skimmed milk has a higher specific gravity, from 1034 to 1037. Water added to this lowers the specific gravity.

The souring of milk is due to decomposition. Decomposition of nitrogenous matter causes milk sugar to be converted into lactic acid, which renders the milk sour. This is caused by the presence of certain bacteria or fungi, the "ferment lactique" of Pasteur, and "bacterium lactis" of Lister, and other species, which cause the milk to absorb oxygen from the air. In other words, the activity of the bacteria results in an absorption of oxygen into the milk, and a giving off of carbonic dioxide ($C O_2$). These bacteria sometimes, and very often too, produce from milk a toxalbumin or ptomaine called neurine, which may cause various forms of intestinal disease, as diarrhœa and other forms of irritation, especially in children. The souring of milk in the stomach is sometimes the result of an excess of gastric acidity, which converts the milk sugar rapidly into lactic acid, by breaking up a molecule of milk sugar ($C^{12} H^{24} O^{12}$), and, by a rearrangement of its atoms, producing four molecules of lactic acid. ($H^2 C^3 H^4 O^3$). This acid coagulates proteids and decomposes the alkaline salts of milk, and liberates phosphoric acid. This produces gastro-intestinal irritation, and diarrhœa, and is also one of the causes of cholera infantum. The curds formed by souring milk frequently cause trouble in weak stomachs, and result in indigestion and diseases similar to those produced by other irritating matters in the alimentary canal.

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Curds are often passed through children undigested, seldom in adults. Milk and cheese are often assimilated well together.

The reaction of mother's milk, though somewhat variable, is usually alkaline; that of cow's milk sometimes alkaline, and sometimes slightly acid, hence the necessity often of adding an alkali, like lime or soda-water, to cow's milk to make it acceptable to a baby's stomach. The milk of carnivora is acid. Sometimes when milk has become acid, heating it will render it again alkaline, the caloric checking the fermentation by arresting the development of bacteria, a result of the escape of gases. It is said that boiling milk expels about three per cent. of gases, C, N, O, and the loss of oxygen (O) diminishes the formation of lactic acid and souring. The boiling, however, renders the taste flat, which may be corrected by pouring, or some other form of agitation, or the addition of ice. The correction of the taste should not be attempted until the milk is to be used. Boiling often causes a thin scum upon the surface, which consists of a layer of albumin, and this is soon followed by another upon removal, the heat coagulating the lactalbumin. Boiling, however, destroys all germs, or at least their development, and renders the precipitate thrown down by the gastric juice flocculent, instead of bulky, like curds. This is too valuable to be counteracted by any slight difficulty of digestibility, which Raudnitz and others allege to occur. Boiling thus, and corking tightly in bottles, will preserve milk for a short time. A little sugar helps. Heating in a closed vessel to 250° F. will preserve it for years, or until the air is allowed to reach it. Boroglyceride, boric acid, salicylic acid, etc., are also preservatives of milk. Acids in the stomach precipitate caseinogen and form casein, as fibrinogen is precipitated to form fibrin in coagulated blood.

In addition to what has been said above, concerning the

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preservation of milk, a word may not be out of place here in regard to the sterilization of milk for nursing-bottle babies. The simplest method, and one which is generally satisfactory, is to put the nursing bottle into boiling water for forty-five minutes. Dr. Jacobi and others have stated that 20 to 30 minutes is long enough to boil the milk. The bottle should be cleansed very thoroughly beforehand with hot soda-water. To sterilize milk for family use, where it is to be kept for a time before using, put the bottles of milk into a closed vessel of boiling water, the bottles being over the water, not in it, and leaving the corks out of the bottles, boil ten minutes, then cork them tightly and boil for forty-five minutes longer. The milk still in the corked bottle should be put into a cool place. Milk thus sterilized will keep for months or years.*

One of the most important matters we have to deal with in our treatment of children and delicate patients is to prepare a food from cow's milk which will agree with weak stomachs, or take the place of mother's milk. Dr. Jacobi recommends the following: Water, one pint; hydrochloric acid, one-half drachm; milk, one quart; boil fifteen minutes and stir. This is especially useful in cases of anæmia, gastric ulcer or catarrh and slow convalescence. Peptonized milk is produced by the fermentative action of some preparation of pepsin upon milk, too much fermentation being prevented by boiling and keeping upon ice. This preparation is valuable in cancer of the stomach. Preparations with pancreatin may be used in the same way.

The proper dilution of milk to suit a baby's stomach is a matter that has caused much thought and care upon the part of the profession. Biedert has made some of the most careful observations. He has found that the average quantity of milk required by an infant under 4 weeks is 13

*A good apparatus is Arnold's Steam Sterilizer.

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ounces, and from 1 to 10 months 24 ounces. A child thrives best, he says, upon the minimum amount required for development, which, in the first month of life of an infant weighing 6 to 7½ pounds, will be 5½ to 6½ ounces of cow's milk per diem. A child of 8 pounds in the second month requires 10 to 22 ounces. In the third month it requires 3 ounces for each kilogram (2 lb. 3. oz. 2 dr.) of weight. He also says that: 1. Remarkably small amounts of nourishment are sufficient for the development of an infant in the first few weeks of its life. 2. An increase in the amount of fat above what is present in dilute cow's milk spares albumen, makes digestion easier, and increases the growth of the child. 3. Sickly children must be fed with weaker preparations of milk, such as are suitable for infants of younger weeks. An average artificial milk for children may be prepared by using of cow's milk, 600 grammes; water 339.5 grammes; cream, 13 grammes; lactose or milk sugar, 15 grammes, and calcium phospate, 1.5 grammes. Diluted cream is sometimes used with advantage, where the casein and other constituents of milk disagree with the stomach and fats are easily digested. The amount of water used must be adjusted to individual cases. It must be borne in mind that cream constitutes eight to twenty-four per cent. of milk, and that in Alderneys it reaches thirty to forty per cent., and also that fat globules constitute fourteen to forty-four per cent. of cream. If the cream agrees, sometimes children thrive well upon it; but it is desirable to add milk to it as soon as the stomach will bear it. It will sometimes take the place of milk for a short time, in the forced feeding which has given such excellent, and sometimes almost remarkable results in exhausting diseases like phthisis, melancholia, certain nervous disorders, chronic and obscure bowel diseases, typhoid and other prostrating fevers, including also la grippe. The nitrogenous metabolism, which is very act-

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ive in these pathological conditions, is met, to a certain extent, by the free use of milk, a litre to two litres or more a day, as the patient's stomach and bowels will bear.

In diabetes, the milk should be skimmed, according to many authorities, but Frerichs and others look upon a milk cure in diabetes with disfavor. Skimmed milk has been recommended in Bright's disease, dropsies, and neurotic and hysterical cases. I would suggest that it might be well to boil milk and again skim it, in Bright's disease, to remove as much of the albumin as possible. Personally, I look upon a milk diet with favor in any exhausting disease, believing that the objectionable features are more than counterbalanced by the nutrition and support given to the system. In Bright's disease, I should prefer a milk skimmed after boiling, rather than one skimmed before.

It should be remembered that the milk cure, and of course the continued use of milk, at first increases the pulse and sometimes causes nervousness. The tongue is coated and often there is a disagreeable taste in the mouth, which may be modified by salt, coffee, caromel, etc. The water of the urine is increased. There may be obstinate constipation, and the stools at times are hard and of an ochre color. Epigastric distress may be present, with a feeling of emptiness. Arterial tension is lowered. The weight at first may be diminished. These results being borne in mind, it will cause no uneasiness when they occur.

Whey is a good sudorific and diuretic in fevers. The whey cure is sometimes used in Bright's disease, and catarrh of the stomach. It has also been found useful to relieve the irritant cough and improve the secretion in chronic bronchitis. It increases the strength of the pulse, but if taken too freely it increases peristalsis causing diarrhœa with watery stools, colic, and diminished appetite. Not

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more than 500 grammes need be taken daily. In Germany and Switzerland it is combined with the grape cure.

Buttermilk I have seen yield valuable results in chronic catarrhal gastritis, where the peptic glands are atrophied, and the digestion of peptones and fats impaired. It should generally be used fresh.

I have found many cases in infant feeding where condensed milk acted well. However, it readily undergoes lactic fermentation when diluted, sometimes causing diarrhœa. It has been used in the treatment of dysentery, and as a prophylactic against scurvy.

The drinking of hot milk will often relieve an irritating cough with tenacious mucus. Milk and sugar of milk have a diuretic action.

For Discussion see page 440.

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SOME COMMON ERRORS IN THE PHYSICAL TRAINING, EDUCATION AND DRESS OF GIRLS.

J. SCHNECK, M. D., MOUNT CARMEL.

When I promised to present a paper on this subject for this meeting, I did not comprehend that a little thought on its various phases would expand into such immense proportions. Instead of material for a short paper by an ordinary man, it presents an ample field for a large volume by a master in composition.

I shall therefore touch lightly upon the three leading phases of the subject, and if I thus succeed in calling attention and thought to these important topics I will in a humble way have accomplished an important mission as a member of this society.

There appears to be a growing disposition among girls, especially among those reared in towns and cities, to take little physical or outdoor exercise; to be satisfied with a superficial education, by the aid of which they assume an unnatural and affected style of language that is neither elegant nor grammatical; and to adopt a style of dress which is in direct violation of the laws of nature, symmetry and beauty, and which if persisted in destroys health, and produces deformity and disease, premature decay and death.

When we compare the average of wealthy and fashionable girls who have been brought up in our towns and cities with their sisters from the country or with the hardy English and German maidens who annually come to our shores, we

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are compelled to say that deterioration is written on their countenances and decay on their frames.

An investigation reveals at least three prominent errors that are producing these unfavorable results.

The first of these is want of proper physical exercise and training. The second is a bookish education with an almost entire neglect of the practical applications of knowledge, and a very imperfect second-hand knowledge of nature and of the natural sciences, including physiology and hygiene.

Third and most important, inappropriate dress with resulting deformities.

The importance of physical training has been recognized in all ages and by all nations. It produces health and symmetry of form, graceful motions and vigorous actions, power of endurance and longevity, and what is most important it prepares the system to receive an education and mental training with the ability to put that training into practical use.

What then, are the proper methods of physical training and exercise for girls and women? I include women, for the reason that the daughter's health depends very much on the physical strength possessed by the mother.

Exercise should be taken in the open air as much as possible, and should not be too violent; it should engage the mind as well as the muscles, and should be of such a nature that both sexes can engage in it together. The apparel should not interfere with the free action of any of the vital organs of the body.

It should aim to assist in the natural development of the body, for nature, if let alone, will produce a perfect form.

For girls who are reared on the farm, the usual duties of the household and flower-garden, together with frequent

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buggy and horseback rides, and many short walks in performing the social duties and obligations, are amply sufficient to develop a healthy and vigorous frame.

For those who live in towns and cities the same advice holds good; but in addition there should be frequent outings to bring them into direct contact with wild nature and pure air. And I know of nothing that is at once so instructive and healthful as frequent short trips to the woods and fields for the purpose of studying the natural sciences.

Here the range of study is ample, and should suit all cases, tastes and fancies.

First, and most abundant as well as the most useful and interesting, are the wild flowers and trees; then the innumerable forms of insects passing through their many stages of development; the many phases and forms of animal life, including fishes, batrachians, reptiles and mammals, rocks and minerals, besides landscape and scenery.

But for those who will not be attracted by the wooings of nature, the various artificial exercises and training may be resorted to. Of these, croquet, lawn tennis, battle-door and shuttle-cock, cricket, grace-hoops, rowing, skating, and swimming, and the various forms of calisthenic exercises, are all healthful, provided they are taken in moderation, and with regularity.

In every female academy or college, there should be a complete system of calisthenics, including dumb bells and Indian clubs.

It is best to alternate these exercises, so that one set of muscles or organs will not be unduly developed at the expense of the rest of the body.

Any of these may be carried to excess and thus do much harm.

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The most objectionable of the popular amusements from the hygienic standpoint are the roller skates and the dance.

The principal objection to them are that they are usually taken within doors; the motion of the forms in the dance soon fill the air with a fine light dust which enters the lungs and carries into them untold numbers of germs of the lower forms of animal and vegetable life, many of which are disease producing.

The parlor dances usually take place on carpets, and in many cases the accumulated dust of the past six months is thoroughly stirred up and much of it inhaled. I believe that the majority of cases of protracted coughs that date from an evening spent in the ball room are caused by the filth inhaled rather than by getting too hot and taking cold, as is usually thought.

Another serious objection to the dance is that the female apparel is usually of such a form as to prevent the free exercise of the respiratory and the circulatory organs.

In young girls the bones and cartilage about the joints are still tender and imperfectly developed, hence it is important not to bruise or overstrain them, as in this manner an ostitis is readily produced which might make of them invalids for life.

This is especially liable to occur in the rough exercise on roller skates. But the organ which suffers most frequently and most seriously from over-exercise is the heart.

Dilatation, valvular disease, and heart failure from this cause are in the experience of every observing physician.

Any exercise which throws this organ suddenly into violent action is injurious, hence in all games, action should be gradual and steady.

Passing now to the education of girls, we may safely say that little difference of opinion prevails as to the

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importance of teaching them the common school branches properly.

These should form the groundwork of every education, but when we reach the academy or university course much advantage can be derived from a proper selection of topics to be studied by a girl who is preparing herself for the highest duties in this life.

In selecting such a course, reference should be had to the role in which she expects to appear in the drama of life.

It is my opinion that every girl should aim at the highest position that is within her reach, and that I believe to be the mistress of a home. The family circle is the birthplace and stronghold of civilization, and "Ichabod" is written on that nation which neglects it. Here she is the object of veneration and love; here she commands the respect and attention of all who come in contact with her; here she may preside as a ministering angel to the helpless and suffering; here she can mold and transform the developing mind of her offspring so as to fit it for the highest duties and positions in this life; and here she can train their moral natures which will prepare them for that glorious inheritance which is to come.

With such duties and possibilities before her, what studies should a girl, who is preparing herself for them, pursue?

We answer, the fine arts, physiology and hygiene, chemistry and the natural sciences.

The fine arts are usually taught in a more or less thorough manner in nearly all of our institutions of higher learning.

Physiology and hygiene are usually relegated to the preparatory departments, and there they are usually taught in the most superficial manner, so that the average training in these important branches is very imperfect.

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Chemistry is seldom studied by the female student; yet an important part of her duties, as the governess of the household, is the directing of the kitchen, where a knowledge of chemistry is of the greatest importance.

By a familiarity with the principles of this science, she would be able to comprehend intelligently the results of the various mixtures which are constantly being made in this department.

She would be able to avoid many of the unwholesome errors which are daily committed in our kitchens.

Familiarity with the natural sciences would enable her to regard the flowers she cultivates from the intellectual point of view, as well as the emotional.

A plant should be admired and thought of, in its relations to other plants, and insects, and of their several functions and uses, as well as for their gaudy colors.

This would at once open a wide field of intellectual pleasure.

A familiarity with the science of botany, would also present to the mind a clearer view of the nature of many diseases, which are caused by the lower forms of vegetable life, a knowledge of which would be eminently practical in the care of her family and household.

The accumulation of moisture and filth about the kitchen and premises would stand in her mind as a source from which the most destructive diseases could be developed.

By familiarity with anatomy and the laws of physiology she would clearly comprehend the dangers and results of compression and restraining the development and growth of the most important organs in the human system, and instead of questioning the physician's advice she would intelligently carry it into execution, with benefit to herself as well as to her family

In the majority of our academies and colleges girls are

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taught in the same classes with boys, or if not in the same classes their studies are virtually the same.

The curriculum usually includes higher arithmetic, algebra, geometry trigonometry, conic sections, civil government, Latin, Greek, mental philosophy, ancient and mediæval history, ancient and modern literature.

These are all important branches of knowledge, but how do they compare for practical work in the household with those mentioned a few pages back, or what comfort or solace can these attainments be to that mother who has been compelled to dress in mourning over the loss of her offspring, when it has perhaps met its untimely death because she in her younger days, by improper dress, checked the development and destroyed the functions of the important organs which should have afforded the healthful nourishment to her offspring?

Nor is this the only error which improper education has caused her to commit, probably she has fed her child from a nursing bottle which to the uneducated eye appeared clean, but which was fairly swarming with pathogenic bacteria.

Had she in her school days been taught the nature and life history and products of bacteria, instead of how a sovereign should govern his people, these errors could in many cases have been avoided.

It would be thought worse than a waste of time and energy if a young man who contemplated the study of medicine should spend his best days and opportunities in the study of higher mathemathics, the vagaries of political economy, or the endless theories of government or theology.

He can not master these and the sciences which are collateral to medicine also. Yet this is a parallel case of what many of our ambitious young girls are asked to do.

Let us never forget that it is the quality of an education that renders it useful, and not the quantity.

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Probably one of the greatest faults in our educational system is superficiality, and this is largely the result of students attempting more studies than they can master.

Let us then, in educating our girls, instruct them thoroughly in those branches which will best fit them for the most important position and duties in this life.

It will strengthen the home and elevate the plane of our national life.

As an introduction to the third division of my subject, it may be proper to state that an extensive series of comparative measurements of the height and waist of women, shows that the average percentage of waist measures to height is smaller in American women than in that of any other nation on earth.

That the average waist measurement of the fashionable American girl is larger at fourteen than at any other period below thirty-five years of age. And yet, it is a well-known fact that the abdominal and pelvic viscera are at the former age but partially developed.

Census show that American-born parents average but one and one-half children per couple, and that it requires three and one-half children per couple to keep up the present population.

These figures are approximate.

Natural forms are always symmetrical and beautiful.

We admire the sculptor's conception of beauty, as delineated in the Minervas, Niobes, Venuses, Helens and the ancient, mediæval and modern statuary, not because they represent the forms our civilization and fashions have produced, but because they are true to nature; then why not set up the same standard in actual life?

The children of a family are all rocked in the same cradle, and dressed in the same style of clothing, they walk and talk, romp and play, love and hate, regardless of sex,

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from the days of long dresses until the boy gradually grows into trousers and the girl into waists and skirts.

Thus far they have engaged in the same plays and games together, with scarcely a thought that there is any important difference between them.

In many cases the girls have been the more active, the more heedless, and the more rugged of the two, but as the second decade is reached, conventional regulations say they must separate in their every-day plays and sports.

Henceforth, when they meet for purposes of amusement, etiquette has laid down rules and regulations which are to be observed.

In dress they have widely diverged; that of the boy is just such as is suited to offer protection, and yet not interfere with the free action of all the organs and muscles of the body, while the dress adopted by the girl as she grows into womanhood possesses just the opposite qualities, especially when she presents herself in her full toilet.

As puberty approaches, the female pelvis becomes proportionately broader; the generative organs, which until now have made slow advance, take on new vigor and growth; the mammary glands increase more rapidly in size; the general tendency is to assume a more plump and rotund appearance.

It is just at this juncture that the tight-fitting waist or corset is added to the dress, from which is suspended the principal part of the clothing, ranging from two to fourteen pounds in weight.

The corset usually extends from above the mammary glands down to within a few inches of the pubic bones.

It is worn to accomplish two objects; first, to constrict the waist and body and give it the desired form.

Second, to form a firm stay from which the skirts can be carried. If this were all that it accomplishes my paper

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would stop here, or it would not have been written at all; but the following are produced.

By the long continued constriction of the thoracic and abdominal muscles, partial paresis of their fibers is induced, so that they do not respond, and finally the corset becomes an absolute necessity to support them in their natural functions.

The great respiratory muscle, the diaphragm, is hindered in its free ascent and descent with each respiration.

As a result of the constriction of the waist and the lower half of the chest the shoulders are drawn down, causing the points of the shoulders to droop.

So common is this that the sloping shoulder is usually considered a peculiarity of the female anatomy.

Any one can easily convince himself of the error of this belief by comparing the shoulders of a miscellaneous group of small boys and girls; it is surprising how nearly alike they are; I have sometimes thought that the shoulders of the little girls were even more nearly horizontal than those of the boys.

The principal constriction produced by tight corset or band around the body takes place on the anterior and lower half of the chest and the abdomen.

The spine and firmly attached ribs will not yield, but form a sort of "*point d'appui*," toward which the soft parts are drawn.

The firm attachment of the true ribs to the spine at one end and the breastbone at the other prevent any serious compression of the upper portion of the chest, so that the principal constriction is accomplished over the false and floating ribs and the abdomen.

Impressions of the ribs on the liver are not infrequently noticed in making autopsies of persons who had in life constricted the waist.

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The common cartilage of the false ribs is swung forward and downward until, instead of standing at an angle of sixty degrees from the medial line, they are parallel to it. Or in many cases where the body is slender and considerable pressure has been made, they overlap one another. In such cases there is much complaint of pain at the point where the ribs from opposite sides come in contact with one another.

The result of this constriction of the lower portion of the chest is to lower the points of the shoulders and draw the upper portion of the spinal column forward, to compensate for the greater length required in the anterior chest wall, thus producing the characteristic rounded back, protruding chin, retracted epigastrium and drooping shoulders so frequently seen in young girls after they have commenced to wear corsets and tight waists.

In this condition she is scarcely able to extend both arms at once to the horizontal line, and does not pretend to be able to raise them above the head into the vertical line which she should be able to do if not restricted by dress.

The evil results of the long continuance of this constriction are many:

The mammary glands, which at this age are rapidly developing, are compressed and hindered in their growth.

The nipples, instead of standing out free from the glands, are flat and depressed, and in many instances have nestled themselves back in the glandular tissues.

Where is the practitioner who has not over and again had just this kind of a breast to contend with in primiperæ, and occasionally in multiperæ, also? Poor, scanty milk, sore nipples, abcesses of the breast, and finally a bottle-fed baby, which very often does not live through its second summer, is the usual history of such cases.

On the inside of the chest we find compressed lungs and

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displacement of the heart, with the pains, distress and damaged health which naturally follows.

In the abdominal cavity the deformities are still greater. Here we find compression and downward displacement of the stomach, liver, spleen, pancreas and kidneys, which are all located near the waist.

That the constricting band is the cause of this displacement is demonstrated by the fact that those who do not wear them seldom suffer from these displacements.

Women who have formerly compressed the waist with corsets have gained from two to seven inches in waist measurement in a few months after their removal.

The recent investigations of Dr. Chapotot appear to demonstrate that the loud gurgling sounds in the stomach, which are such an annoyance to many females, are produced by a vertical bilobulation of the stomach, caused by the pressure of stays. In the act of respiration the air is forced up and down through the narrow constriction, thus producing the gurgling noise.

One of our leading gynæcologists informs me that he is thoroughly convinced that dislocated and floating kidneys are almost invariably caused by tight lacing.

The few cases of this malposition which I have seen were in ladies who constricted the waist freely.

By this means the intestines are compressed and forced down into the pelvis, the sigmoid flexure in the descending colon is bent at a more acute angle; this and the compression prevent free vermicular motion; the result is constipation and distention of the rectum by hardened fæces.

But the trouble does not end here ,the principal distention of the rectum and sigmoid flexure is forward and downward toward the developing uterus.

This hinders the circulation of blood in the womb, and

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produces passive congestion and its resulting hypertrophy, prevents the free escape of menstrual blood by pressing the os against the posterior wall of the vagina, stretches the uterine ligaments and destroys their power and efficiency.

So marked is this tilting forward of the womb that it is often necessary in gynæcological practice to have the corset removed before the antiverted womb can be righted, or a sound introduced into the womb.

The continued pressure on this organ from behind and above finally produces a bending on itself forward, and eventuates with permanent antiflexion, followed by dysmenorrhœa and all its train of dire consequences.

Every nook and corner of the abdominal cavity is completely filled with its proper viscera. Those who have seen it opened will remember how readily the intestines roll out the moment the peritoneal cavity is opened.

Those who are in the habit of making vaginal examinations have observed that with every deep inspiration the womb descends, then reascends with the following expiration.

If these viscera are pushed downward there is but one direction for them to move and that is into the pelvic cavity.

It is a noteworthy fact that the great majority of cases of painful menstruation are found among teachers, seamstresses, clerks and such others, whose occupation compels them to prepare their toilet early in the morning and seldom change it until bedtime.

For twenty-one years I have been practicing in a town whose population has varied from 2,000 to 4,000. The result is that my work has been pretty evenly divided between the country and town.

I am safe in saying that all the serious cases of painful menstruation which I have been called to treat from the country could be counted on the fingers of one hand while those that I have treated in town are several hundred.

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So in obstetric practice in the country. Usually as soon as the baby is dressed and the mother cared for I get into my buggy and go home.

I seldom hear any complaint, and usually in the course of a few months that mother makes her first appearance to town and calls at my office to show me a fat, healthy baby; the mother cheerful and happy, and healthier than she has ever been. While in the same kind of a case in the town, we are expected to make at least three subsequent visits; in many cases, especially among the fashionable classes and primiperæ, by the time the three visits have been made, the breast pump, the nurse, and probably several members of the family, including the pup, have all had a hand in trying to draw the nipple out, and the visits may have to be continued for several weeks.

I have another charge to make against the corset.

I believe that very many of those cases of cystitis, or gravel as it is called by the laiety, are directly traceable to pressure on the bladder from an antiverted, or antiflexed womb and the over distended rectum, causing more or less vesicosele, which is seldom entirely emptied of urine and which soon produces vesicular catarrh.

In many of these cases, if you correct the constipation the bladder troubles will get well of themselves.

Another injurious article of dress is the high-heel shoe.

I have measured the heels of a large number of fashionable dress shoes worn by ladies, and find that the heels of the styles commonly worn vary in hight from one and five-eighth inches down. These measurements do not include extreme styles, or full opera shoes. Some of these are fully two inches high.

Merchants inform me that shoes with heels one and one-fourth inches high are the best sellers for dress shoes.

A lady with such shoes on her feet is unable to take the

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needed free, healthful exercise. The walk is stiff and unnatural, and in most instances accompanied by pain; hence a minimum amount of out-door exercise is taken.

But the damaging effect does not stop here.

The heels being elevated and the anterior portion of the foot lowered, necessitates a slight bending at the knees to maintain the equilibrium, which results in a slight tilting of the lower portion of the pelvis forward, and its upper portion backward, the ilio-femoral articulation serving as a pivot.

This makes the communication between the abdominal and pelvic cavities more direct, so that if pressure is applied around the abdominal cavity, its contents are more readily forced into the pelvic cavity, producing acute flexions of the descending colon, thus causing partial obstruction with descent of the sigmoid flexure, and downward and forward displacement of the uterus and bladder.

The lumbar curve of the spine is almost obliterated, while the dorsal curve is as much increased when in the erect position. If now to these conditions we add the constricting corset to squeeze the abdominal contents into the pelvic cavity, we have just the conditions to produce forward displacement of the viscera mentioned above; this to be followed by anti-flexion and painful menstruation, and later, ovaritis and salpingitis, with resulting sterility, partial vesicosele and cystitis.

AUTHORITIES REFERRED TO.

Dr. Chapotot—Journal American Medical Association, p. 505, April 16, 1892.

Dr. J. H. Kellogg—The Influence of Dress in Producing the Physical Decadence of American Women. Transactions Michigan State Medical Society, 1891.

Dr. S. J. Donaldson—Bodily Posture in Gynæcology, American Journal Obstetrics, p. 481, 1885.

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Dr. A. W. Leighton—The Place of Sanitary Science in Education. Transactions Ninth International Convention, Vol. IV, p. 443.

Thomas & Munde—Diseases of Women, 1891, p. 38.

Drs. J. M. Keating and J. K. Young—Cyclopædia Diseases of Children, Vol. IV, p. 296.

DISCUSSION

ON THE TWO PRECEDING PAPERS.

DR. A. E. HOADLEY, CHICAGO:

The paper of Dr. Carter illustrates how very apt the profession is to hang on to theories, even though science has shown that those theories are incorrect. The paper upon Milk was a very scientific production in my opinion, very liberally interspersed with untenable theories. The facts in the paper make the theories advanced impossible. For instance we were informed that it requires three hours for a healthy adult stomach to digest milk. We are also informed that if the stomach belongs to a delicate infant, the milk must be given in small quantities, and that if small quantities will not suffice for the maintenance of the child it must be given oftener in half teaspoonful doses. The child does not digest a half a teaspoonful of milk in a shorter time than it does a quart. The process of digestion can not be accomplished in the adult stomach in a shorter time than stated by the paper, namely, three hours. Physiology teaches this, and yet the paper advises that if the stomach is weak we should give less and more often. Here is where we are making mistakes every day in infant feeding and the feeding of adult invalids. We give them food that they can not digest any sooner than a specified time, and because they are ill we will incumber them with an impossibility. It has also been shown in the paper that milk contains and carries with it its own elements of destruction. The lactic acid ferment operates after the milk is taken from the cow. It operates much slower than a digestive ferment,

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but if the digestive ferment has a fair chance it will convert all of the elments of the milk that are convertible in the stomach. The other elements of milk that are not convertible in the intestinal canal are not liable to decomposition, but the sugar and the albuminous portion of it are liable to rapid decomposition and acid fermentation.

If milk is not digested and the milk ferments not destroyed by digestion, then acid fermentation will take place, and if digestion is interrupted in an hour and a half by the addition of a new quantity of milk, lactic acid fermentation takes place and milk curds are precipitated and go through the intestinal canal, directly producing intestinal inflammation and irritation. I think it is unscientific to give milk any oftener than the time required for its digestion. It is more unreasonable in a delicate infant. The fact that an adult never passes curds through the intestinal canal is because he has time to digest milk, and the reason that it occurs in the case of infants is because they do not have time to digest their milk; they are not permitted to digest it. That is the principal point I want to make in regard to the first paper.

In regard to the second paper, which is a very intelligent and exhaustive review of the general management of young girls and women in relation to their dress, I would like to take exception to some of the statements made which are misleading and untenable. I agree with the author in regard to the baneful influence of the tight dress and heavy skirts. I believe that most intelligent women are beginning to do away with heavy skirts and are adopting clothes that are more comfortable. It is doubtful whether they will ever get back to heavy skirts again.

With regard to tight corsets and the displacement of organs, and the effect of an anteverted uterus upon the bladder producing cystitis, the position taken is untenable. It is no worse for the uterus to press upon the bladder than intestines, and one or the other will be in contact with the fundus of the bladder all the time. It is not a matter of displacement of the uterus that produces cystitis, for uterine irritation is associated with vesical irritation.

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Another cause is a loaded colon. The strong influences in the production of misplacements of the uterus are uterine irritability, ovarian irritability and vesical irritability, but never cystitis, for it is not produced by pressure upon the organ itself directly. It is the last organ to be primarily diseased, especially by an acute inflammatory process. It must be caused by septic material introduced into the bladder, or is produced by external irritation. These are facts, both pathological and physiological, which, I think, ought to be placed in a little different light.

Dr. D. W. Graham, Chicago:

I desire to refer to one point in the indictment which the Doctor makes against the corset. He quotes a gynecologist as saying that it is the cause of nearly all the cases of movable kidney. That is a very common notion, but investigation shows that it is not correct. The idea was prevalent at one time, but it has been shown that a great majority of cases of movable kidney are found in the lower classes many of whom never saw corsets.

Dr. Ellen H. Heise, Canton:

I am pleased to hear a paper like the one that has just been read on the education of girls. I think people have a great deal more to learn. I believe that the relation of wife and mother is the highest on earth for a woman. But I am wondering what we shall do with our girls when they reach that point of physical, mental and moral development, if they have this high ideal of the domestic relation. Are the young men being educated with any idea of their responsibilities or their fitness to participate in this kind of home? I have no doubt but the health of woman is greatly influenced by wrong modes of dressing. But it is a mistake to attribute sterility or the lessened number of children in a family entirely to the mistakes of women.

I think the same gynecologists who are called to bear witness to the mistakes of women in dressing and education, recognize in a large proportion of cases the fact that where there is perhaps only one child or a miscarriage after marriage, it is not always due to the corset. It is not always the woman's fault. I do not

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say this in a reproachful manner or to retaliate because you show the faults of my sex. I do believe just as heartily as the writer of the paper that our girls are not properly educated. We are also criminally careless in regard to the boys. I think their education with reference to the home is decidedly at fault, but I hope we shall by and by reach the point where we have the ideal woman, willing and anxious for marriage, and I hope further she will be able to find a young man who is suitable for her. I hope the young men (as well as women) will not only be willing but competent to form the ideal home.

DR. KATHARINE MILLER, LINCOLN:

I would like to call attention for a moment to other causes than were mentioned for displacement of the uterus occurring in young girls. One which is rather common is rope jumping. In speaking of suitable exercise for young girls, I will say that roller skating may be productive of evil results, while rope jumping, as it is carried on at our public schools, is very injurious. You see a child stand in one position, as it were, simply jumping up and down, coming down heavily on the heels, trying to see how many times she can jump. Some will often jump up and down 150 or 200 times in succession. From such causes we meet with uterine displacements, which do not appear to cause any disturbance at this time, but when menstruation begins are the cause of dysmenorrhœa, and other troubles later on, developing during puberty and womanhood.

As to the education suitable for women, I would beg leave to take issue with the author of the paper. I believe, as other speakers have said, that there is no station for a woman higher than that of wife and mother, and I believe that the best education for them is that which develops each in every direction as an individual, not that which simply looks forward to her duties as housekeeper, etc. The woman of the future has a broad outlook. She has to be acquainted with political economy. Women are expected to be informed on politics and to actively participate in political affairs, as well as to study all of the natural sciences, mathematics, etc. The gentleman seems to have for-

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gotten that the education of to-day in our female seminaries and co-educational institutions is not limited to theory, but women are trained in our colleges and other educational institutions more thoroughly in all lines, as well as in the natural sciences, than heretofore. They stand hour after hour in the laboratories side by side with their brothers; or, if in a female seminary, nevertheless they spend that time in the careful study and practical demonstration of the natural sciences. We are reaping the fruits of education in the life of women, the remarks in regard to the sterility of college-bred women to the contrary notwithstanding, in the number of children they raise. Take a woman who has produced ten or a dozen children, and lost six or eight by the time she is fifty years of age; how much superior is she to the woman who has never borne but four children, and has raised every one of them to a healthy, intelligent womanhood or manhood in a healthful home? Statistics go to show that college-trained women, although not trained with especial reference to this point, bring five-sixths of their children past that fatal fifth year.

In regard to household affairs and hygiene, I believe as my friend has intimated, that the young men need to be trained in this matter. They are generally the ones that hold the pocket-book, and the women can not control the money needed for hygienic improvements. If a woman trained in hygiene has an ignorant husband, she is not much better off than if ignorant herself; in fact, she is less likely to be mentally comfortable, in my opinion.

Another point with reference to the development of figure in connection with the use of corsets. I think the author of the paper is a little too severe on the corset. I do not believe in them myself, but at the same time I believe as much harm is caused by the use of close-fitting bands, without the corset, as there is with the corset itself. I believe some of the cases of displacements of uterus and appendages which we encounter in laboring women who never have worn a corset, and perhaps never saw one, are due to their wearing heavy skirts of thick woolen material, firmly fastened about the waist by a tight band,

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the whole weight of the skirt resting upon the soft tissues of the abdomen.

The most influential argument I have been able to find to induce women to lay aside corsets and tight bands is to show their effect in the production of the large abdomen so objectionable to most women. The slenderest girl may be guaranteed such a protuberant abdomen within a few weeks or months if she will but judiciously compress the waist and crowd the bowels and the fat in the abdominal walls downwards. The newer methods of dressing with so-called "union" underwear, and either a "princess" dress, or at least partial attachment of the dress skirt to the waist by hooks, etc., mark a more healthy era for women.

DR. F. B. HALLER, VANDALIA:

One point seems to have been omitted in Dr. Carter's excellent paper, and that is the source from which the milk comes ought to be looked at, the feed the cow receives, whether it is healthy or not. That has as much to do with pure milk as anything you can do by boiling or taking care of it after it is taken from the cow. If you want to have good milk, you want to have a good cow with clean healthy skin, perfect in make up. I guarantee that if you have an animal of that kind you will have pure and healthy milk which will not need any boiling.

I can show you a little fellow that was raised on the spoon, five or six years old, not very far from here, who was never sick in his life. The milk he drinks is drawn from a beautiful cow, healthy in every respect, the cow subsisting on timothy hay, mixed feed, oats and bran, the oats and corn ground up together and the result is they have a healthy boy. I think if we would sometimes pay more attention to domestic animals and not so much to other things, such as boiling and medicating the milk, we would have healthier children. There is nothing healthier than good cow's milk in the world, for children. Let us look well to condition of the cows.

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DR. RICHARD DEWEY, KANKAKEE:

I desire to say but a few words in reference to the first paper, and first with regard to the sterilization of milk. It is necessary to consider the changes which the milk undergoes in the process of sterilization, rendering it less nutritious. Not long ago I was informed by Dr. E. P. Davis, editor of the *American Journal of the Medical Sciences*, who gave me an account of his experience in Philadelphia in the treatment in the hospital of a large number of cases of cholera infantum in which he had been able to control the disease by perfectly aseptic, thoroughly sterilized milk, but it did not nourish the little patients, and they gradually failed. The mortality was very considerable, from the fact that the nutrition was so interfered with that a large number of them sank into a condition of exhaustion and died. I am inclined to think, as Dr. Haller stated, that if we can get healthy milk from perfectly healthy cows and keep it pure until it is taken into the system, it will be safe in the end.

In reference to the matter of dress, I agree with the ladies who have spoken, and think there will be no trouble about the evils of tight lacing when the gentlemen are sufficiently educated as to beauty of form, so that they will appreciate a normal waist and not one which is restricted by the application of a corset.

DR. J. H. MILLER, PANA:

There is one thing I desire to speak of, it being connected with other things in producing displacements of the uterus, dysmenorrhœa, etc., in young girls. It is this, the young girls in attendance at our female seminaries climb up and down stairs several times a day, going up and down ofttimes in a hurry. The pressure brought to bear upon the abdominal organs in this way is as injurious, I think, as the tight corset. At the same time the mental faculties are put upon a strain. There is a lack of proper exercise which should be taken daily, and as a consequence constipation results, and by this combination of circumstances we get a condition in a great many of the girls who graduate from these seminaries which renders them unfit for the duties of mothers and for the duties of life. They go home exhausted. I

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think this point should be borne in mind, namely, of having them take more daily exercise and take their education a little more slowly. If there were not so much rush, I think our women, or at least a great many of them, would come out of these seminaries with healthier bodies as well as well informed minds.

DR. J. M. G. CARTER, WAUKEGAN:

I wish to make one remark in regard to Dr. Schneck's paper in reference to the natural sciences being taught in schools for the purpose of developing the child's mind, because it does develop the child in every respect—at least it has seemed to me to be so for years, and I think that physicians can accomplish a great deal of good if they will take upon themselves the responsibility of urging upon the public schools a system of teaching which includes natural sciences in the lower grades. Being connected with the Board of Education in the town of Waukegan, I have been interested for the past two years in pushing this matter in connection with the public schools, and it has always been of special interest to me. When the pupils have reached the eighth grade and are prepared to enter the high school, I think they should have been taught as much of the natural sciences in grades below as is required to secure a first-grade certificate in the state of Illinois, which comprises botany, zoology, philosophy and physiology. The elements of these sciences are required to be known by those applying for teachers' certificates who expect to secure first-grade certificates. This has been introduced in our school the past year.

The point I make is this, that the children are delighted with the work because it gives them excursions into nature. It gives them healthful recreation, and at the same time it gives them means of securing information. The teachers are enjoying it likewise. They regard it as an excellent means of education which they had not had the opportunity of enjoying before. There was objection on the part of some teachers to this. I fancy, if physicians would take an interest in this matter and urge it, besides making the course of study of much more interest, it would develop children into more healthy individuals.

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Dr. Hoadley suggests that a teaspoonful of milk can not be digested in a shorter time than a quart. I am not prepared to make a statement on that question. The statements I have made in regard to the matter were made upon the authority of a distinguished gentleman versed in chemical physiology—Dr. Halliburton—but I should be inclined to say that the stomach would be able to digest a teaspoonful of milk more easily than it would a quart. I should say that a stomach would be able to digest a piece of beefsteak an inch square in less time and with less effort than it would two pounds and a half, and the same is true with any other kind of food that you might introduce. I should say the smaller the quantity taken into the stomach, if it is weak, the more likely it is to be digested in a shorter time, because under ordinary circumstances we do not expect that the stomach throws out its juice in proportion to the amount of food that is taken into it. One of the causes given for dyspepsia in certain individuals was over-eating. According to this theory of the Doctor's one can digest a large amount of food as well as a small amount, and that the stomach daily secretes juice in proportion to the amount of food which is put into it. If this be true we should remove over-eating from the list of the causes of dyspepsia.

In regard to sterilization of milk, I will say that I am discussing milk that is not known to be pure, dairy milk. If a family is not sure that it is having pure milk, it should be sterilized. It may be said to a family living in the country that has an excellent cow, one in good condition, one that is fed with proper feed, it is not necessary to sterilize the milk; but in a town where people are buying milk from a dairyman who has all sorts of cows and whose milk is a mixture, it is advisable to sterilize it before using. If we are not certain that we have pure milk we should try to make it so.

In regard to sterilized ice, I will say that ice is sufficiently sterilized if one has been reasonably careful in his selection, ordinarily, not to make the milk undesirable for use.

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DR. J. SCHNECK, MT. CARMEL:

I will speak of one or two points brought out in the paper by Dr. Carter. The question has been raised, if the milk from a cow that is drinking water that has the germs of typhoid fever in it could communicate that disease to a person who drank milk from her. Several years since I treated a family of ten, in which typhoid fever occurred and ran its regular course in four of the members. I searched the premises carefully to find the cause, and finally gave it up. Later it occurred to me that the milk had something to do with it. Their cows appeared to be healthy, but those four persons who had typhoid fever were the only ones in the family who drank milk. I investigated the source whence the cows got water and found that it was from an artificial pond which occasionally went dry. I had been feeding these patients milk up to this time; this I stopped—they finally all recovered. I think it probable that these persons contracted the disease from germs in the milk.

In regard to the care of milk: I treated one of the most perplexing cases of stomach trouble produced by milk improperly cared for. Every time the man ate a full meal he would have pain in the stomach followed by diarrhoea. I learned that he was the only member of the family who drank milk. I asked to see the cellar where the milk was kept. I found everything clean and neat, but in the bottom of the cellar was a pit about four feet square and ten inches deep. There were boards in the bottom of this pit, upon which the milk crocks were set. It was found that moisture had accumulated under these boards from milk that had been accidentally spilt. I called to mind an experience of Prof. Vaughn, of Ann Arbor, Mich., in which a family was poisoned in a similar manner, and suggested that the milk be put in a different place; the instructions were carried out and the man got well without further treatment. The milk had probably been poisoned by tyrotoxicon generated under these boards.

In regard to the remarks on the cause of cystitis: I believe it makes no difference how you produce a cystocele, when it ex-

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ists, the bladder does not empty itself entirely, and it is not long until cystitis is produced by the retained and decomposing urine. Frequent observations convince me that a cystocele can be produced by tight dressings worn around the waist; these force the sigmoid flexure down on the womb and bladder, pushing the base of the latter below the level of the opening of the urethra. I did not wish to convey the idea that tight dressing was the only cause of sterility. I believe it is only one of many causes.

I am very thankful to the lady (Dr. Katharine Miller) for calling attention to the injurious effects of rope-jumping. I believe it does a great deal of harm when carried to excess.

In regard to the point spoken of by Dr. D. W. Graham: it is a remarkable fact that about ninety per cent. of cases of dislocated kidneys are in ladies. I am not certain about the exact per cent., it is near that. It is true that poor people who never wear corsets have dislocated kidneys, but many of these persons wear dresses and bands around the waist that are even worse than corsets.

The statement made by one of the speakers that the education of boys is not perfect is only too true. I hope it will be remembered that I was writing about girls; if I should attempt to write about the errors of boys, I could easily tell worse things of them than I have said about ladies.

In regard to the remarks on the teaching of the natural sciences: Our whole school system neglects the natural sciences entirely too much. Of recent years we are doing a good deal in the way of natural-science teaching. But too much of it is from books, and memorizing. The only way to learn nature is to read from the book of nature itself. The average college graduate will readily give the names of the parts of an ideal flower; but when you hand him the various parts of plants or flowers and ask what they are he is usually unable to apply these same names correctly. I know this to be true from test experiments. This illustrates just the point I want to make in the paper—that we should go into the open woods and study nature as we find it, and not from books in the school room.

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THE NECESSITY OF GREATER PROVISION FOR THE INSANE.

REV. F. H. WINES, M. D.,* SPRINGFIELD.

During the administration of Gov. John M. Palmer, in the year 1869, the legislature of the state of Illinois in its wisdom saw fit to establish a Board of State Commissioners of Public Charities, to take general supervision of the work of the charitable institutions created and fostered by the state, and also to inspect the county almshouses and other places in which the insane may be confined. I was elected secretary, and, if my life is spared and I continue to sustain my present peculiar relation to the people of the state, in two years more I shall have completed a quarter of a century's service in that relation. I may, therefore, claim to have a pretty thorough knowledge of the history of the great advance in the extent and character of care of the insane in this state.

When the Board was created, Governor Palmer said to me that the first thing to which it would need to devote its attention would be the condition and needs of the insane. We might have begun our service with a discussion of abstract principles and might have asked ourselves what right have the insane more than other sufferers to receive care and treatment at public expense? We did not raise that question. It hardly occurred to us, and it is unnecessary to discuss it in a body like this. It is perhaps a question of policy rather than of right. As you know, both public

* Secretary Illinois State Board of Public Charities.

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sanitation and public charity as well as public education are condemned by no less an authority on all social and governmental questions than the great Herbert Spencer. But the state of Illinois has placed itself on opposite ground. More than that, it is in the front rank of states, in respect of its liberal policy. In nearly all the states and territories of the American Union two classes of patients are recognized in state hospitals for the insane—public patients and private patients. In this state, private patients have not been known since the year 1875, when the legislature passed a law making all of our state charitable institutions absolutely free to all citizens who require their benefits, in the same degree and manner in which the public schools are free to children, upon the theory that the system of public charity is in effect a system of compulsory insurance against certain specified, selected calamities. If in private life we insure our houses for a year and they do not burn, we do not regret the premiums which we have paid. We have had the worth of our money in insurance. If we have had no occasion to call upon the insurance company, we are merely that much better off. The tax paid for the support of a state charitable institution is a premium. If a man pays his share, according to his ability, whether small or large, what he has done toward the maintenance and proper care of the insane, the idiotic, the deaf and the blind entitles him to the benefit of the institutions for these classes, if any member of his family should prove so unfortunate as to require it.

At the time when the Board of Public Charities was created we had but one hospital for the insane, and that was in the town of Jacksonville. There were crowded into it 525 patients, some of them sleeping on beds made up on the floor in the corridors. The first thing we did was to make an official inspection of the almshouses and jails of

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the state. We included the jails because the insane "might be" confined in jails, and some of them were. The almshouses at that time were for the most part in a disgraceful condition. There are horrors in the almshouses in Illinois still, but they are scarcely worth mentioning in comparison with the horrors which we found twenty-three years ago, on our first tour of inspection. The local public interest which has been since aroused has led to great improvement in the care of the insane upon the county farms. The insane departments of the poorhouses of Illinois are, however, still very far from being ideal institutions, in most counties, if not in all.

In the year 1880 I had the honor and privilege of taking the census of the insane for the United States government. Then, I think, for the first time in the history of this country, was an approximately accurate enumeration made of the defective classes, especially of the insane and of the idiots. The observations of the census enumerators were supplemented by correspondence with physicians. The census report showed that there were then, in round numbers, 5,000 insane in Illinois. The enumeration of the insane in the present census has not yet been completed. I have reason to believe that if it has been taken with equal care and accuracy, the number of insane in Illinois in 1890 will be found to be not less than 8,000, and may go above that figure.

As I have previously said, there were a little more than 500 insane cared for in the state hospital at Jacksonville when we commenced our work twenty-three years ago. I take great pleasure in informing you that the state, under our influence, has now provision for 5,000 insane patients. We can take care of about 1,800 at Kankakee, 1,000 at Elgin, 1,200 at Jacksonville, and 1,000 at Anna, besides the Cook County Insane Asylum, which provides for several hundred

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more. More than 5,000 are under state control. We have also two or three private insane asylums in the state, one of which is under the care of Dr. R. J. Patterson, at Batavia, and another under Dr. George McFarland, at Jacksonville, both of which are good institutions and worthy of your patronage.

The question arises, have we reached the point at which the demand for hospital and asylum care is met? I am sorry to confess that we have very far from reached it. I have watched the growth of the entire system of state institutions during the last quarter of a century, and no part of it has expanded with such vigor and rapidity as that portion which relates to the care of the insane. But we have had great difficulties to contend with. This is a question which appeals to the public from many points of view. There is the humanitarian and sympathetic point of view. There is the medical point of view, and under that aspect it must impress itself upon this audience. There is also the governmental or administrative aspect of the question, under which it presents itself to the state and county authorities. Nor must we overlook the point of view of the politician. I have not the contempt for politics and politicians that many persons feel and express. Politicians are an absolutely essential element in the organization of any free society. Popular government could not exist without them. They are imperfect, as we all are imperfect. They have mixed motives, as we all have mixed motives. But they render valuable service in their place, for which, instead of being abused and scorned, they deserve to be thanked. At the same time the politician, in proportion to the selfishness of his character, regards public affairs with an eye which has a cast in the direction of his personal success and the success of the party of which he is a member. Whenever the question of provision for the insane or the expenditure

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of money for any public purpose comes under discussion in a legislative body, the question always presents itself with great force to those who vote appropriations. What effect will the passage of this measure have upon my political standing and upon the political welfare of my party? We are unable to get the amount of money that is necessary to carry on these public enterprises in the most liberal and the best way, because both political parties fear to increase the levy for taxes. We have to do the best we can. Nevertheless, the legislature has been liberal. It reflects the liberal sentiments of the people of the state. It has done a great deal for the relief of suffering humanity, and the people have a right to be proud of what they have accomplished. But their representatives in the Illinois legislature have never yet come to the point where they are willing to vote the amount of money necessary to take care of all the insane of the state. Some insane men and women ought, of course, to be kept at home. They are better off there than anywhere else. But the same process of piling up the insane in the poorhouses, which we found in operation twenty-three years ago, is going on to-day, and it ought to be stopped.

Another difficulty in the way of making provision for the insane is that the legislature has a great aversion to any increase in the number of public institutions. With all respect to politicians (for we all of us have our own peculiar form of cowardice) this is the form which political cowardice assumes. Legislators think they hear a general outcry against the multiplication of institutions. The outcry is a myth, the fear a superstition, and those who succumb to it may be medically described, in the technical language of experts in insanity, as victims of false hearing. They insist that there is in the state what is generally termed an "institution ring," and that this ring, so-called, is the

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cause of all the political evils which affect the people of the state. I have myself been publicly attacked in some very reputable newspapers as the "head devil of all the devils."

Many years ago, when the legislature was at Vandalia, before the state capital was removed to Springfield, a story is told of a very honest country member who came here and watched the process of legislation until he had formed some glimmering idea of its nature. Then he said to his most intimate friend, "John, I want you to come with me and take a walk." All right; they took a walk. He led his friend to the bank of the river. The other side of the river was then a wilderness. Seeing a little skiff, he said, "let us row across to the other side." They went over. After walking away into the timber, he looked all around to discover if anybody was in sight. Seeing no man, he laid his hand on his friend's shoulder and timidly remarked, "John, I am afraid that there is 'log-rolling' going on in the legislature."

I believe that since the world began there never yet was a deliberative body in which there was not more or less of what is opprobiously termed log-rolling. I do not suppose that associated action on the part of any number of men is possible without giving and taking. Reciprocity is the fundamental principle of morals. If a man accepts a favor at my hands I have a right to expect something of him, at some time, in return. This idea prevails in politics just as it does in dinner giving, and no honest man has any respect for a public man who ignores it. It is the basis of all social life. Of course, in localities where there are no institutions a popular belief may easily grow up that the effort which has to be made to secure the necessary appropriations for carrying on our state charitable and educational institutions is more or less corrupt. I consider myself an honest man. I am certainly a man with moral per-

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ceptions and convictions; I have been watching the legislature closely for a quarter of a century, and I have never yet put my finger on that assumed corruption. I do not believe that it exists. But the legislature, like capital, is timid. It dreads the charge, the suspicion even, of corruption, more, if possible, than the fact. Some one says: "The more these institutions are multiplied, the more dangerous the institution will become." Others take up the cry. The result is that, instead of spreading these institutions over the state, making them small, so that they can be more efficient, and bringing them near the people, the legislature forever enlarges them, in order to keep their number down. I think that you, as physicians, must know that that is very bad policy. It has been condemned by the very highest authority, no less an authority than Dr. Edward Jarvis, of Massachusetts, in all matters of charity one of the wisest men that ever lived.

Our Board has been for twenty-five years fighting the legislature of Illinois on the question of enlarging the public institutions. We are always beaten. But if a superintendent has charge of 1,000 or 1,200 insane, with a prospect that the number will go to 2,000 or even higher, he is compelled, in reason, to give up all effort to retain in his own mind a knowledge of the details of the business. He must trust it to subordinates who never do as well as he would do, because their responsibility is less. When you send your insane to the insane hospital at Jacksonville or Elgin, you suppose that the medical superintendent knows a great deal about their cases, that he gives them his personal attention. How can he do it? He may know something about recent cases; he may know something about acute cases, or cases which present some peculiar and interesting features that require his personal attention. But he has so much correspondence to carry on, so much business to at-

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tend to, so many visitors to receive, so many buildings to look after, to see that they are kept in repair. His time and attention are absorbed in general administrative duties. How can he give the time and attention to the direct care of patients that the public supposes him to give? He does not do it. It is simply an impossibility. In large insane asylums, as a rule, the superintendent makes the grand round but once a week, usually on Sunday. On other days he does not go into the wards very much. On Sunday he inspects the premises rather than the patients. The care of the patients is practically intrusted to the assistant physicians. They are for the most part young, unmarried men, sometimes men without any experience in general bedside practice, and without any knowledge of general diseases other than the little they have obtained in walking through the wards of some general hospital as an interne, after graduating at the medical college. I have known an instance in which the assistant physician of an insane asylum did not recognize a case of measles. He had never before seen a case. If the institutions were smaller, so that each superintendent could know all that goes on in his institution and all about the patients in it, I believe that they would be better administered. The impression prevails in this state, that it would be better for the institutions to be nearer to the people, where the friends of patients could see them oftener, where patients could go home more easily on short leaves of absence. It would cost less to send patients to the hospital and to take them home again. Our Board has from the beginning favored smaller institutions. But the legislature does not pay as much attention to our recommendations as it does to the supposed wishes of its constituents.

At the last session of the legislature this question took a peculiar form. I will explain to you why you did not get

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what you desired and expected. The physicians of the state were disappointed, and the county authorities were disappointed. But why? On account of the great number of conflicting interests and conflicting schemes that were introduced. In the first place, there was the everlasting fight between two schools of medicine, the so-called homeopathic and allopathic or regular. Several bills were introduced for the creation of a new institution to be exclusively under the care of physicians of the homeopathic school. These bills were unfavorably received by the members of the regular profession who happened to be in the legislature, but they had no bill of their own. Then there was a conflict between the interests of different localities. A bill was introduced locating the proposed new institution in the military tract somewhere between the Illinois and the Mississippi rivers. But that northwest section of the state was not large enough, relatively to the rest of the state, to accomplish its purpose. After all, the great struggle was between the creation of a new institution and the selfish desires of the towns in which the state institutions are now situated for an increased local expenditure of money from the state treasury. You can readily imagine that where an institution spends from $100,000 to $250,000 a year, and one half of it is spent in a certain locality, that amount of money going into local circulation has a stimulating effect upon business and promotes the growth of the town. The towns which have state institutions combine, and they are able to pursuade the legislature, playing upon this absurd fear of enlarging the institution ring of which I have spoken, to carry the process of enlargement of the institutions still farther. The enemies of the ring play into the hands of its friends; the measures taken to weaken it, in fact make it more powerful.

You know that during the last few months there has

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been more or less said of mismanagement of the hospital for the insane at Jacksonville. I do not believe that there has been serious mismanagement in any of our state institutions, whatever ill-natured people may say to the contrary. So far as I have been able to learn, there has been nothing of a serious character to condemn in the management of that institution. The charges that have been made have included brutality on the part of attendants toward patients. Such brutality, to a limited extent, occurs in every large hospital for the insane in the world. Whether it has prevailed to a greater extent in that institution than is usual I can not say. I think not. But I am perfectly sure that, whatever there may be to criticize at Jacksonville, is due to the enlargement of that hospital to a point where the superintendent can not know what goes on in it, except in part. He is liable to be imposed on by his attendants, and by the subordinate officers in charge of them.

Now, what are we going to do? The legislature will meet in January next, and the question of additional provision for the insane will come up again. The county authorities will earnestly support a movement for additional provision of some sort. It is a matter of no consequence to them how it is made, whether by enlarging existing institutions, or by the creation of new ones. But the county authorities are not competent to take care of the insane, and they know it. They want to be rid of this burden and expense. The medical profession surely does not want insane patients to be cared for in the county houses on the county farms. Therefore, I appeal to you for the earnest and undivided support of the medical profession of the state of Illinois, in the effort to secure additional provision for the insane by the state at the approaching session of the legislature. I would not say

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anything in derogation of your dignity or usefulness; but I have sometimes asked myself whether it is not possible that the mistakes which have been already made in this important matter are not due, in part at least, to a lack of sufficient attention and oversight by the medical profession of the state at large. I suppose there is no profession in which the individual spirit is carried to such an extreme, in which it is so difficult to secure coöperation among all its members. You are all occupied with your studies and your practice. In the matter of providing for the insane, as well as in that of the amendment of the lunacy commitment laws, you have been in the habit of appointing a committee to attend to it. This committee corresponds a little. It comes to Springfield, and perhaps one or two members may at some time appear before a legislative committee, and say a few words. But the influence of the medical profession as a body, I can assure you, is not very much felt in the legislature. I have not felt it, and I ought to know. If you desire anything practical, anything of consequence done at the next session of the legislature, will you permit me to say that you must take the work up with more earnestness, be more active, and make greater sacrifices than you have done heretofore. I think that a committee from this body should come to a thorough understanding with the corresponding committee of the annual convention of county supervisors, and agree upon a measure which will be supported by them instead of allowing the mind of legislators to be diverted by so many schemes which conflict with one another. All the influence you may possess should be brought to bear upon the individual members of the legislature at their homes in favor of that one measure. You ought to clearly decide in your own minds whether you approve of this perpetual enlargement of

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existing institutions, or whether you want new institutions, and any measure that may be brought before the legislature with a favorable prospect of success should be so thoroughly studied and agreed upon in advance, as not to conflict with any other measure and prevent its passage. If we have the same differences of opinion at Springfield next winter that we had two years ago, I am satisfied that nothing will be done, or else what is done will be very unsatisfactory. I ask you to appoint a committee who will spend some time in Springfield, if necessary, for the purpose of instructing and influencing individual members of the legislature. I appeal to you as individual physicians, and through you to every physician interested in this question, to use your personal influence with the members from your own district by talking the matter over with them. It is necessary that the matter be fully explained to the members of the legislature. If they have a thorough understanding of it, I believe that they will do what is right and best for all concerned.

One point more I desire to call your attention to, and that is the favorable prospect of an amendment to the lunacy commitment laws. We came very near success in the last legislature in getting the present jury law so modified as to remove from this state the stigma which has rested on it for so many years in this regard. The bill which was introduced was approved by the judiciary committees of both houses, and it had the support of a majority in the house of representatives. It would have unquestionably passed the house of representatives but for the fact that it came up on a Tuesday morning when the attendance was very slim. There were not more than two thirds of the members present, consequently there were not enough to pass it constitutionally. It received a large majority of that minority of the house.

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If the house had been full when it came up it would have passed both the house and senate. If you will continue the fight which you have been making for so many years to allow the sending of patients to insane hospitals in cases where there is no question at all as to the insanity of the patient under the certificate of a physician approved by the judge of a court I am quite sure that next winter we shall be able to pass the bill for which we have now been fighting for nearly a quarter of a century.

DISCUSSION.

DR. R. DEWEY, KANKAKEE:

Mr. President: I will take up but little of your time, as we have heard a full discussion of this subject, and I am sure that what we have heard will inspire us to some effort as a medical body, and I hope that our efforts will tell in other directions more than by further discussion at this time.

There are two or three points that I would like to bring to your attention. The Rev. Mr. Wines has said that Illinois was in advance of other states in her provision for and care of the insane. This is largely true, and the institutions have been made free to the people of the state. But there is one state in the Union that has taken a step in advance of any of the others, namely, New York, that state having passed what is called the "State Care Act," a law which requires that all the insane of the state, without any exceptions, shall come under the care of the state; that they shall not be left in the care of counties. A bill was passed two years ago to that effect, and has been put in force. Large appropriations have been made, and in a year or so hence all the insane of the state will be under the care of the state. There may be many here who have not given much thought to it who do not appreciate the reasons why county care of the insane is objectionable. We know how frequently it is made a matter of public discussion and rumor that there are insane persons

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under the care of county poorhouses and jails that are in a very deplorable condition, either from neglect or abuse, or both, but largely through neglect. The reason that the county can not care for the insane is that its affairs are managed by a board of supervisors whose duty and interest compel them to consider first, last and all of the time, the expenses of the county and to keep taxes down.

There are among the insane very many persons who are perfectly harmless and might be cared for with comparative ease, still they do not and can not receive from the county the care they should have, because the supervisors do not provide help to look after the insane patients. The whole county establishment is usually looked after by one man and his wife, and they have a farm and all of its affairs to look after, as well, which take their whole attention, and the insane usually have the key turned on them, so that they can not be allowed to go out and given privileges, because they might run away. In order to keep them at all they are kept locked up, and they are huddled together with perhaps but one employe to look after them a portion of the time, or perhaps the pauper inmates have them in charge. The care of the insane is charitable work, and the county authorities do not necessarily possess the experience and facilities for doing that work. It requires special knowledge and skill to give proper care to helpless insane persons, and that the insane in the county houses are in a miserable condition does not need to be dilated upon here. It is, perhaps, too well understood. I believe if the sentiments of the public could be ascertained it would demand that its insane should be taken care of by the state, and in order that that may be done it is necessary that a considerable advance be made in the line of provision for such persons over what has heretofore prevailed. Every year there will be 1,500 new cases of insanity in this state. There is room in the institutions for only about 1,000, consequently there are 500 that can not be received. A number of these could be otherwise provided for, and some of them are harmless persons. But there are 200 to 300 added to the number of insane every year, and this is a process that is bound to continue for some time. The proportion of

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insane to-day in the state of Illinois is about one to 500, or a little over, of the population. From what we know of the experience of other states, the increase of insanity will continue until there is about one to every 300 of the population, and if the insane are to be provided for it will be necessary to provide for the number to-day in the state, and to provide for such a number that the annual discharges from the institutions by recoveries, deaths or removals will be equal to the number of new cases occurring, and thus all will be provided for. We frequently hear it said that insanity is largely on the increase, and it is an appalling fact and a matter requiring a large expenditure of money to meet it, but we perhaps do not reflect always that the resources of the state and its population are increasing even in greater ratio than the insane, and the ability to provide for them is therefore equally great.

A few words in reference to the jury law. I would like to say a word for those who perhaps are not familiar with the facts in regard to it. It is familiar to most of us. There are many who are not aware of the evils of the present law in regard to sending patients to insane hospitals. The law requires that any and all persons who go to an insane hospital shall be taken into court and a jury trial shall be had with reference to their insanity. This is a law which works very great harm to the insane patients and to their friends in many ways. In the first place, it prevents patients from being treated as soon as they ought to be because of the reluctance of friends to take the unfortunate one into the public court and have an exhibition made of the insanity of one near and dear to them. In that way very many cases become chronic and hopeless before sent there, and the favorable time for treatment passes away often forever. Then it is a source of injury to the patients themselves to be exhibited in court in the manner that the law now requires, a public spectacle being made of them, and the effect upon the patient is very bad. Those patients who have any degree of appreciation feel that when they are sent to an asylum, they have been put through a criminal process, having been tried by court, found guilty, and sentenced to the institution. Sometimes a jury trial is needed in the inter-

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est of personal liberty and because of the designing motives of those who would like to get hold of property or to get rid of the disagreeable burden by sending a patient to the asylum. It is unquestionably the case, that if this law were so amended that any and every case in which any person requiring a jury trial could be assigned counsel for the protection of his or her interests, thus placing the jury trial within the reach of all who needed it, there would still be a large number of instances in which the patient might be sent, without making a public spectacle of him, in the same way that prevails now in every state of the Union, I believe, except Illinois, viz., by physicians having certain qualifications prescribed by law giving a certificate, and a record being made of the commitment in such a way that there will be no opportunity for abuse. A law embodying these principles was favorably considered and came very near being passed at the last session of the legislature.

I trust that the members of this Society and those who have means of arousing interest in this matter will do all they can to promote progress in the right direction. There is much more that might be said, but the lateness of the hour forbids it. I thank you for your attention.

DR. F. B. HALLER, VANDALIA:

Owing to the lateness of the hour I will only say a few words. I was associated with Dr. Wines for nine years, having been a a member of the State Board of Charities for that length of time, consequently I am not unacquainted with him and his good work. He is an honest, capable, conscientious man, and for years he has devoted his time to the study and care of the insane and to the best means of ameliorating their condition. His father was engaged in some similar work before him, consequently he comes by this trait of character honestly. There are one or two points that I would like to emphasize, the first is that we should act as a unit in exercising our influence upon the legislature in order to correct some of the imperfections in the laws of the state in regard to care and commitment of the insane. If there is any class of people that requires our attention and sympa-

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thy more than another it is that class of persons who have lost their reason. After visiting institutions, as I have from time to time and from year to year, and witnessed them in their hallucinations and illusions, a man would have to have a heart as hard as a stone if his sympathies were not aroused in their favor. We should make more ample provision for them. That is self evident.

One thing that I desire to emphasize is that the care of the insane at present in our county poorhouses is a disgrace to humanity. I would like to say there is not a man who takes charge of a poorhouse who is competent to care for the insane who are committed to his care. There is not one in the state of Illinois or in any other state. Then what are we going to do with them? We ought to have state institutions and put them under state authority, so that the State Board of Charities would have supervision of them. It is patent to the mind of every reflecting man that a poorhouse is not the place for insane persons; we should have state institutions. I am decidedly opposed to large four story houses; the cottage plan is my ideal of what we need. I believe they should be scattered over the state, and that the superintendent of an institution should not have more than 200 under his care. We should build cottages suitable for twenty or forty to a house. The patients should be isolated and classified according to the stages of their disease. Under such a system the comfort of the insane would be enhanced and the number of cures in my opinion would be much greater. Let the large four-story buildings be relegated to the past. Give us the cottage plan.

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STATE MEDICINE.

B. M. GRIFFITH, M. D., SPRINGFIELD.

State Medicine is a creation of public demand. It is scientific, legal, practical, judicial and indispensable.

Sanitary science or sanitation is a factor of State Medicine. It belongs to an age of advanced civilization. It begins where individual action is inadequate and the people must assume control. The provincial life has given place to community existence and questions concerning buildings, thoroughfares, commerce, travel, food supply, water supply, pure air, garbage, drainage and inter-communication, with all the varied phases of social relation wherein individual dictation is inefficient to provide the best means and enforce the best laws for the preservation of the public health, must be adjusted by that authority in which all are interested, all consulted and all concede the power to command and enforce obedience.

This authority, commonly called "State Medicine" embodies the legal and scientific acquisitions of the people concerning the laws, rules and means of promoting and preserving health.

It establishes quarantines, compels registration, notification, vaccination, inspection and disinfection. It prevents spread of infectious and contagious diseases and adulteration of food. It enforces the immigration law, prohibits the occupation of unsafe and unsanitary tenements, provides for vital statistics and regulates the practice of medicine in the interest of public health.

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It provides for the restriction of contagious disease in man and beast. Our quarantine can only be made efficient by the authority of State Medicine—not alone the quarantine of our coast and boundary line against the invasion of foreign diseases, nor the quarantine of one state against another state, nor one section against another section in times of epidemics and panic, but that most delicate and sensitive of all quarantine work, the isolation of patients in their homes, the isolation of small-pox, scarlet fever, diphtheria, cholera and the prevention of public funerals in the individual homes of towns and cities, the placarding of houses seemingly an infringement of personal rights, and only submitted to gracefully when done by state authority (State Medicine). Respect for the law is an inherent sentiment in the American heart, and is a wonderful power for good when judiciously used, the offender submitting to state authority where he would resist an individual for infringement of personal rights.

State Medicine dictates the status of the qualification of those offering to practice medicine and compels the means to be sufficient for their preparation. It demands and expects a liberal education and a scientific training of those engaging in the practice of medicine.

The U. S. Supreme Court in a case appealed from the Supreme Court of the State of West Virginia rendered this decision in regard to the validity of statutes regulating the practice of medicine:

"The power of the state to provide for the general welfare of the people authorizes it to prescribe all such regulations as may be necessary to secure the people against the consequences of ignorance and incapacity as well as for deception and fraud." It goes behind the medical college training and asks that the preliminary requirement shall be such as to qualify the medical student for an intelligent and

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comprehensive investigation of the subjects involved in the study of medicine. State Medicine alone has the power to regulate medical education. No other power protects the college degree like the efforts made through this means. The insignia "M. D." is an uncertain factor as to the qualification of the holder, and so long as the possessor of it is regulated in his attainments by the laws of supply and demand, it will be partly in the hands of unscrupulous men who confer it for the money. A medical college with State Medicine to sustain it can exact all the requirements of its students necessary to make the study of medicine scientific and the practice of its graduates a security to public health. Where the state assumes control of primary education ample means are provided for liberal training. The insane, the blind, the deaf and dumb (sometimes the product of unscientific medication) are provided and cared for by the state. Why not also have the state supervise medical education, securing to those engaged in this work a standard broad enough and liberal enough to insure competent and efficient practitioners? This would eliminate the commercial feature of medical education without detriment to the colleges and insure competency and safety for the practitioner.

In Illinois State Medicine is poorly equipped, financially, for the work which seems clearly to be the object and necessity of the organization.

For emergencies, epidemics, invasion of foreign diseases, ample means are set apart by the legislature for protection, but for efficient work in the study and investigation of disease and for preventive medicine, the means are wholly inadequate. Sanitary work can only be done to provide for emergencies with the present means, and the profession at large is expected to contribute largely to the work.

The community expects always the practitioners to be

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vigilant, and exacts much sanitary work from the profession not by any means compensated for.

The national interests of the country are fairly well provided for. Agricultural institutions, horticultural, signal service, marine, river and harbor service, the board of animal industry are munificently applied with means and equipments for the preservation of property and prosperity of the commercial people, but sanitary interests are generally left to the care of philanthropic members of the medical profession, with the exception of slight assistance from the Marine Hospital service provided by the general government to care for the public health. If the United States government in justice to the needs of the people would add to the cabinet a sanitary bureau or bureau of public health and thoroughly equip it for active service, it would relieve the medical profession of an onerous task and meet the approbation of all citizens.

The appointment of such a member of the cabinet by the President has been discussed by the American Medical Associations and the National legislature, in which "a bill was introduced by Mr. Caldwell to establish a department of public health," and I hope that this state society will express its endorsement of this measure by such resolution as may seem proper to insist on this movement. There are many sanitary questions of vital importance to the people yet in abeyance that the secretary of the treasury who now has what there is attempted by the government under his care, that he can not possibly treat as they should be. The matters are neglected to the detriment of the people's interest for want of properly qualified attention.

The adage "Public health is public wealth" is a truism not disputed by any, yet it is exceedingly difficult to interest and induce the political element of our people in legislation upon the subject. All agree as to the beneficent

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influence of such legislation in securing comfort and economy to the people where such hygienic laws as conserve the public health are observed, but to take action organizing, providing means, and enforcing the observance of these laws, is difficult to institute.

Preventive Medicine is the highest and most humane phase of sanitary science.

European countries, conspicuously France, Germany and England, make preventive State Medicine a distinct department, and special provision is made for investigation of disease, its cause, its history, its growth and effects as well as methods for prevention. Commissions are appointed for this purpose alone, and fully equipped for the work.

The United States has also in limited directions appointed commissions for the study of special diseases, causes, habits, and modes of propagation, notably yellow fever and cholera, and the results have more than compensated for the outlay. Why stop at this?

Quarantines along the Atlantic and Pacific coasts have been established for the protection of the country against the importation of contagious and infectious diseases, but these are only quarantines against the invasion of foreign diseases, and this is delegated to the Marine Hospital Service under the treasury department, originally designed for the care of the sick and disabled seamen. But this service with the present equipments and appointments can not successfully investigate the essential elements of disease nor study methods of prevention. It may rigidly perform its police espionage and care for individual cases but it can not prevent a recurrence of cases nor investigate causes.

Hospitals under this service are in operation in the principal cities of the United States, and in some of these along the Atlantic coast, the study of the etiology and

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bacteriology of enteric fever and pneumonia have made valuable discoveries as shown in the Supervising General's report for the fiscal year 1891.

A partial study of la grippe was also made and reported by Eugene Wasden, M. D., yet no definite discoveries as to causative micro-organism, enough only to say that the primary focus of the infection is generally upon the pulmonary mucosa.

But these are hospitals where clinics may be abundant, demonstrating the existence and results of disease without facilities for investigating causes and history.

The establishment of health systems for municipalities and states are neglected. The scope of a national health department should be educational in character. Distributed as widely as possible, this system should comprehend more than the mere prevention and subduing possible pestilential visitations. This is good enough as far as it goes, but it is not broad enough to fulfil the requirements of national sanitation. "It should be an organization equipped with every scientific appointment for elucidation of all problems connected with the care and protection of the health of the people within our borders, fully capable of tracing all sources of diseases and their causes, affecting humanity as well as the development, growth, and maintenance of individuals or classes." The means would educate the people to the observance of laws of health—the ideal purposes of sanitary science.

Experimental research concerning the diseases incident to our own climate and soil has not had sufficient attention to make a scientific classification and could best be done by State Medicine and national commissions.

The National Board of Health began an efficient and reliable service in sanitary work, but was emasculated by political influence just as it was in good working order and

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had begun developments. "It employed experts and instituted investigations into a great variety of scientific subjects pertaining to public health and sanitation; it investigated over a limited area soil sanitation; it encouraged the organization of state and local boards of health; it brought in connection state and municipal health authorities in working harmony, and by this method succeeded in suppressing the greatest epidemic of yellow fever that ever visited our country.

"The law which incorporated this board made it a representative organization," and therein lies the strength and efficiency of such organizations. Seven of its members were selected from the most eminent sanitarians of civil life, three to represent the hygienic branch of the army, navy, and marine hospital service, and one for the department of justice. Under "curious political methods nothing remains of this once vigorous public service but its name, its fame and its dignified constitutional organization. Let us hope in the near future the wisdom of our legislators may see cause to revive and equip it for the work which it was organized for, and the country so much needs. Recently Senator Harris introduced a bill providing for a National Board of Health organized on this plan, but a bureau whose secretary should be a member of the cabinet, would be better.

Our boasted philanthropy and exalted patriotism suffer severely in contrast among enlightened nations of the world on this subject.

Can it be that a monarchial government provides better for the welfare of the people than a nation self-governed? Does the former aid the pursuit of sanitary science for the benefit of humanity better than the latter? These are serious questions in which all are interested. Have the scientists of the former greater acumen, greater inventive genius or

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brighter intellects than the latter? Or must we in humiliation admit that these monarchies are more liberal and readier to avail themselves of scientific research for the protection of their subjects than our free government is for the care of its citizens?

Looking to the benefits to be derived by our country and our people "nothing could be more satisfactory to the student of science than the encouragement and material assistance provided by our government to stimulate and foster original research in biology, physiology and allied sciences." Our population is rapidly increasing, and even now in some sections of our conntry it is so dense as to require strict sanitary regulation for the preservation of a healthy status among the people. These people need to be taught the laws of health as well as political economy, literature, language and commerce. In connection with our colleges and universities, our government should establish hygienic institutions thoroughly equipped with lecture rooms, special chemical, physical and bacteriological laboratories, offering prizes and conferring honor to those achieving distinction in these researches. Some of the colleges at the instance of the Illinois State Board of Health have added to their curriculum of study more extended facilities for the study of biology, physiology, comparative anatomy, chemistry and physics to better equip their graduates for the study of medicine hereafter, and as an incentive, this work is given an equivalent when matriculating for the study of medicine. Medical colleges generally, who have considered this, approve it, as it will bring them more mature and riper scholars to engage in the study of medicine.

But this movement can not embrace the scientific study of sanitary science—bacteriology, etiology, histology and complete chemistry—as the incentive is lacking to stimilate

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such achievement. If the government would supplement the movement above mentioned by extending the grade and offering inducements, the results would be a valuable addition to State Medicine and a boon to our people. Many problems as to micro-organism, toxines and toxine antidotes are to be worked out in the laboratory by patient and thoughtful investigation. Only this method will bring accurate knowledge and reliable results.

Practical hygiene will play an important part in municipal government and public charities. Many questions to be decided by city officials and superintendents of public buildings as to water supply, sewage and drainage, ventilation and heating, food inspection, etc., require expert knowledge to answer correctly.

This involves a knowledge of chemistry, physics, bacteriology, pathology and the whole subject of vital statistics. The sanitarian must be the investigator, the teacher, the counsel, "as he who aspires to be his brother's keeper, must know how his brother lives, must know, too, his brother's needs."

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